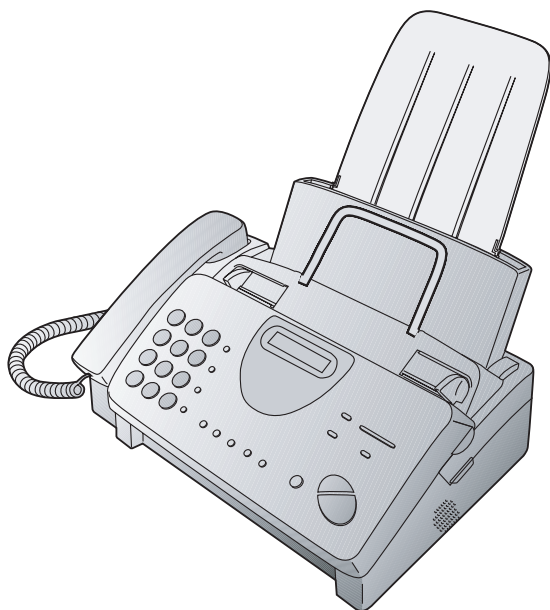


# SHARP SERVICE MANUAL

No. 00ZUX385LUSME



## FACSIMILE

### MODEL UX-385

SELECTION CODE	DESTINATION
LU	L.A.G. (120V)

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##### PARTS GUIDE

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

## SHARP CORPORATION

This document has been published to be used for after sales service only.  
The contents are subject to change without notice.

#### CAUTION FOR BATTERY REPLACEMENT

- (Danish)                      ADVARSEL !  
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandoren.
- (English)                      Caution !  
Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type  
recommended by the equipment manufacturer.  
Discard used batteries according to manufacturer's  
instructions.
- (Finnish)                      VAROITUS  
Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan  
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden  
mukaisesti.
- (French)                      ATTENTION  
Il y a danger d'explosion s' il y a remplacement incorrect  
de la batterie. Remplacer uniquement avec une batterie du  
même type ou d'un type recommandé par le constructeur.  
Mettre au rebut les batteries usagées conformément aux  
instructions du fabricant.
- (Swedish)                      WARNING  
Explosionsfare vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent  
typ som rekommenderas av apparattillverkaren.  
Kassera använt batteri enligt fabrikantens  
instruktion.
- (German)                      Achtung  
Explosionsgefahr bei Verwendung inkorrektter Batterien.  
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder  
vom Hersteller empfohlene Batterien verwendet werden.  
Entsorgung der gebrauchten Batterien nur nach den vom  
Hersteller angegebenen Anweisungen.

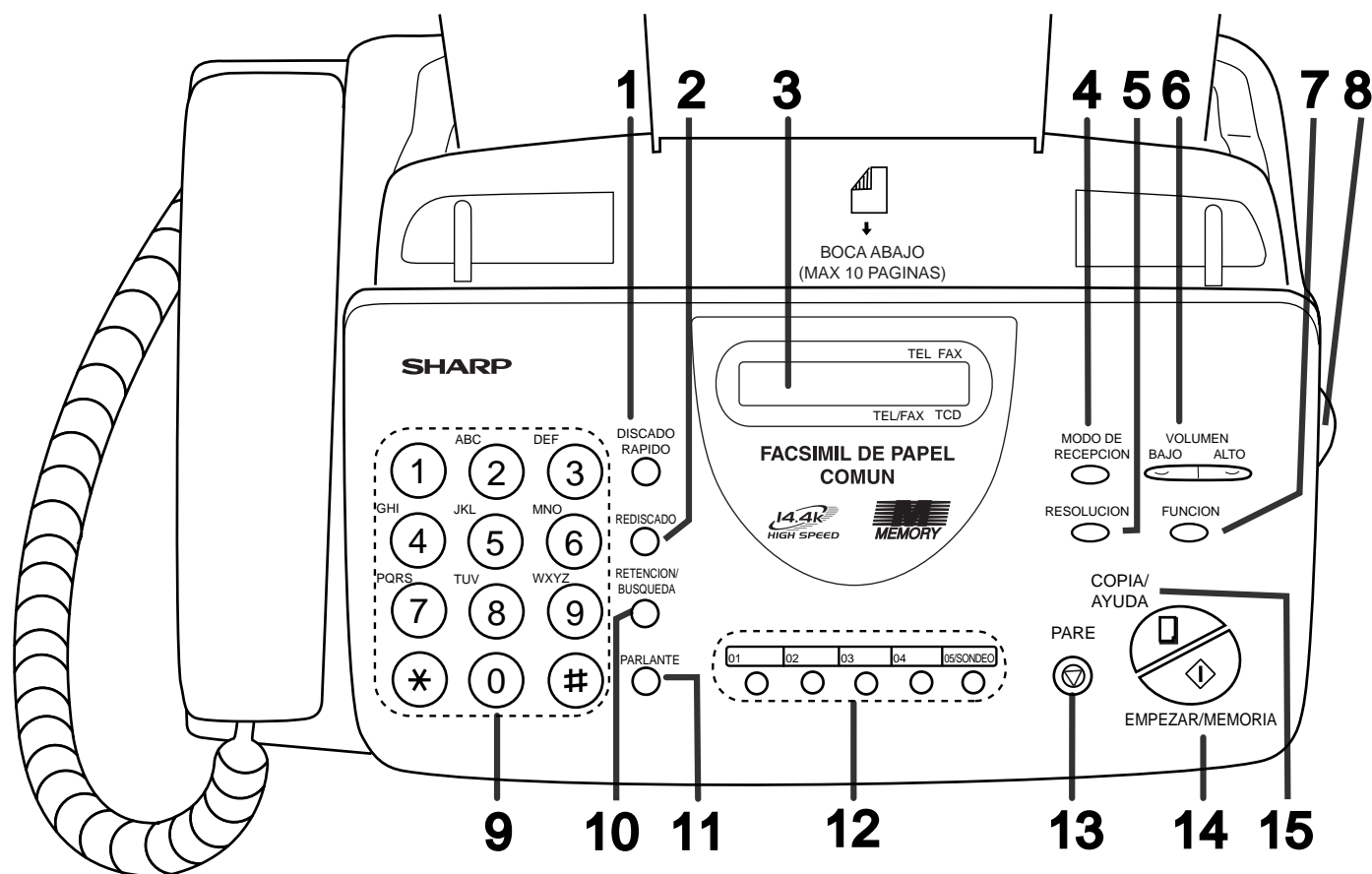
## CHAPTER 1. GENERAL DESCRIPTION

### [1] Specifications

<b>Automatic dialing:</b>	Rapid Key Dialing: 5 numbers Speed Dialing: 40 numbers	<b>Effective scanning width:</b>	8.3" (210 mm) max.
<b>Imaging film:</b>	<b>Initial starter roll</b> (included with machine): 32ft. (10 m) roll (approx. 30 letter-size pages) <b>Replacement roll:</b> <b>UX-3CR</b> 98ft. (30 m) roll (two rolls in package, one roll yields approx. 100 letter-size pages)	<b>Contrast control:</b>	Automatic/Dark selectable
<b>Automatic document feeder:</b>	10 sheets max. (20 lb paper)	<b>Copy function:</b>	Single/Multi-copy/Sort-copy (99 copies/page)
<b>Memory size* :</b>	512 KB (approx. 30 average pages with ECM turned off)	<b>Telephone function:</b>	Standard (cannot be used if power fails)
<b>Modem speed:</b>	14,400 bps with automatic fallback to lower speed	<b>Power requirements:</b>	Standard voltage, 60 Hz
<b>Transmission time* :</b>	Approx. 6 seconds (only when ECM is on)	<b>Operating temperature:</b>	41 to 95°F (5 to 35°C)
<b>Reception modes:</b>	FAX, TEL, TEL/FAX, TAD	<b>Humidity:</b>	Maximum: 85 %
<b>Resolution:</b>	Horizontal: 203 pels/inch (8 dots/mm) Vertical: Standard: 98 lines/inch (3.85 lines/mm) Fine/Half-tone: 196 lines/inch (7.7 lines/mm) Super fine: 391 lines/inch (15.4 lines/mm)	<b>Power consumption:</b>	Stand-by: 4.0 W Maximum: 100 W
<b>Display:</b>	16-digit LCD display	<b>Dimensions:</b>	Width: 343 mm Depth: 256 mm Height: 182 mm
<b>Recording system:</b>	Thermal transfer recording	<b>Weight:</b>	Approx. 3.4 kg
<b>Paper tray capacity: (16-to 20-lb. paper)</b>	Letter: 60 sheets Legal: 30 sheets	* Based on ITU-T (CCITT) Test Chart #1 at standard resolution in Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).	
<b>Halftone (grayscale):</b>	64 levels		
<b>Applicable telephone line:</b>	Public switched telephone network		
<b>Compatibility:</b>	ITU-T (CCITT) G3 mode		
<b>Compression scheme:</b>	MH, MR, MMR		
<b>Scanning method:</b>	Sheet-feeder CIS (Contact Image Sensor)		
<b>Effective printing width:</b>	8.3" (210mm) max.		
<b>Input document size:</b>	Automatic feeding: Width — 5.8 to 8.5" (148 to 216 mm) Length — 5.5 to 11" (140 to 279 mm) Manual feeding: Width — 5.8 to 8.5" (148 to 216 mm) Length — 5.5 to 23.6" (140 to 600 mm)		

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specifications figures indicated are nominal values of production units. There may be some deviation from these values in individual units.

## [2] Operation panel



### 1. Tecla de DISCADO RAPIDO (SPEED DIAL key)

Press this key to dial a 2-digit Speed Dial number.

### 2. Tecla de REDISCADO (REDIAL key)

Press this key to automatically redial the last number dialed.

### 3. Pantalla de cristal líquido (Display)

This displays messages and prompts during operation and programming.

### 4. MODO DE RECEPCION Tecla (RECEPTION MODE key)

Press this key to select the reception mode. An arrow in the display will point to the currently selected reception mode.

### 5. Tecla de RESOLUCION (RESOLUTION key)

Press this key to adjust the resolution and contrast before sending or copying a document.

### 6. Teclas de VOLUMEN (VOLUME keys)

Press these keys to adjust the volume of the speaker when the **SPEAKER** key has been pressed, or the volume of the ringer at all other times.

### 7. Tecla de FUNCION (FUNCTION key)

Press this key to select various special functions.

### 8. Cómo abrir el tablero (Panel release)

Grasp this finger hold and pull toward you to open the operation panel.

### 9. Teclas numéricas (Number keys)

Use these keys to dial numbers, and enter numbers and letters during number/name storing procedures.

### 10. Tecla RETENCION/BUSQUEDA (HOLD/SEARCH key)

Press this key to search for an automatic dialing number, or, during a phone conversation, press this key to put the other party on hold.

### 11. Tecla de PARLANTE (SPEAKER key)

Press this key to hear the line and fax tones through the speaker when sending a document.

Note: **This is not a speakerphone.** You must pick up the handset to talk with the other party.

### 12. Teclas rápidas (Rapid Dial keys)

Press one of these keys to dial a fax or voice number automatically. (Note that you must attach the Rapid Key labels.)

### 13. Tecla de PARE (STOP key)

Press this key to cancel operations before they are completed.

### 14. EMPEZAR/MEMORIA Tecla (START/MEMORY key)

Press this key to send or receive a document, or to scan a document into memory before sending it.

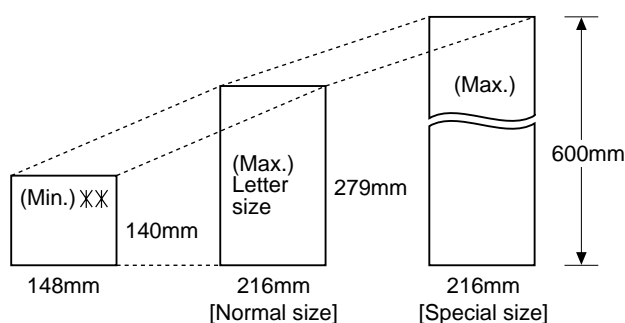
### 15. Tecla de COPIA/AYUDA (COPY/HELP key)

When a document is in the feeder, press this key to make a copy. At any other time, press this key to print out the Help List, a quick reference guide to the operation of your fax.

### [3] Transmittable documents

#### 1. Document Sizes

Normal size	width	5.8" – 8.5"(148 – 216 mm)
	length	5.5" – 11"(140 – 279 mm)



XX Use document carrier sheet for smaller documents.

- \* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

#### 2. Paper Thickness & Weight

	4x6 series (788mm x 1091mm x 1000 sheets)		Square meter series	
	Minimum	Maximum	Minimum	Maximum
Feeder capacity	10 sheets, max.			
Paper weight	45kg	64.3kg	52g/m <sup>2</sup>	74.3g/m <sup>2</sup>
Paper thickness (ref.)	0.06mm	0.09mm	0.06mm	0.09mm
Paper size	148mm x 140mm ~ A4 (210mm x 297mm), Letter (216mm x 279mm)			

#### 3. Document Types

- Normal paper  
Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball-point pen, or felt-tipped pen can be transmitted.  
Documents of normal contrast duplicated by a copying machine can also be transmitted.
- Diazo copy (blue print)  
Diazo copy documents of a normal contrast may be transmitted.
- Carbon copy  
A carbon copy may be transmitted if its contrast is normal.

#### 4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents before transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

#### 5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. ADF 10 sheets

Special size: single sheet only (manual feed)

- NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
  - Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

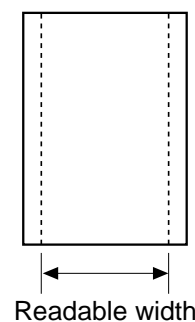
#### 6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

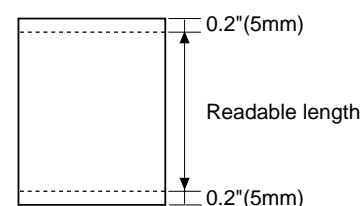
##### • Readable width

8.3" (210mm), max.



##### • Readable length

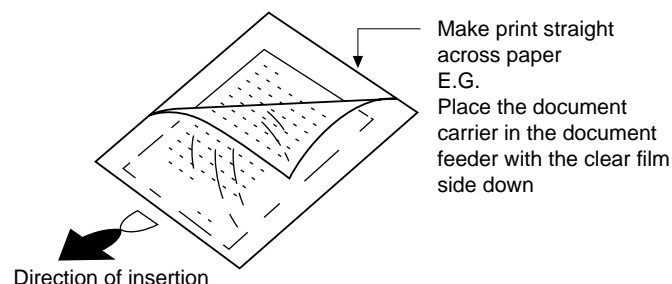
This is the length of the document sent minus 0.2" (5mm) from the top and bottom edges.



## 7. Use of Document Carrier Sheet

A document carrier sheet must be used for the following documents.

- Those with tears.
- Those smaller than size 5.8" (W) x 5.5" (L) (148mm (W) x 140mm (L)).
- Carbon-backed documents



**NOTE:** To transmit a carbon-backed document, insert a white sheet of paper between the carbon back of the document and the document carrier.

- Those containing an easily separable writing substance (e.g., tracking paper written on with a soft, heavy lead pencil).

**NOTES:**

- When using the document carrier, carefully read the instructions written on the back.

- If the document carrier is dirty, clean it with a soft, moist cloth, and then dry it before using for transmission.
- Do not place more than one document in the carrier at a time.

## [4] Installation

### 1. Site selection

Take the following points into consideration when selecting a site for this model.

#### ENVIRONMENT

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 41 to 95°F (5° to 35°C).
- The humidity should be between 30% and 85% (without condensation).

#### ELECTRICITY

Standard voltage, 60Hz, grounded AC outlet is required.

#### Caution!

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone speciality stores.

#### If the machine is moved from a cold to a warm place...

Condensation may form on the reading glass if machine is moved from a cold to a warm place, this will prevent proper scanning of documents for transmission. Turn on the power and wait approximately 2 hours before using machine.

## TELEPHONE JACK

A standard telephone jack must be located near the machine.

This is the telephone jack commonly used in most homes and offices.

- Plugging the fax machine into a jack which is not telephone jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

## 2. Loading the imaging film (UX-3CR)

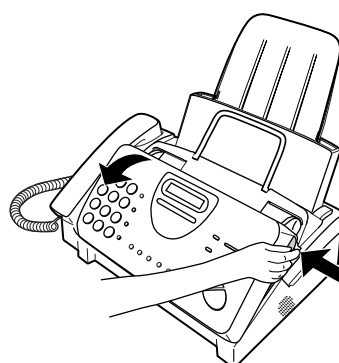
Your fax uses a roll of imaging film to create printed text and images.

The print head in the fax applies heat to the imaging film to transfer ink to the paper. Follow the steps below to load or replace the film.

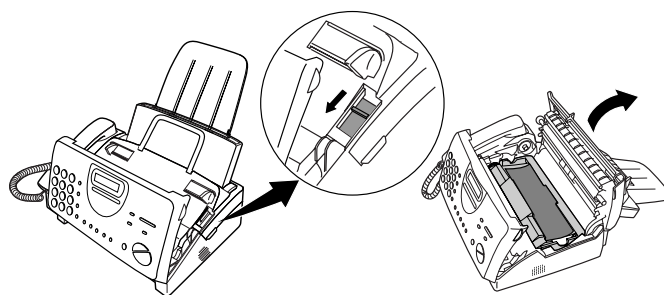
- The initial starter roll of imaging film included with your fax can print about 30 letter-size pages.
- When replacing the film, use a roll of Sharp UX-3CR imaging film. One roll can print about 100 letter-size pages.

**Note:** If there is paper in the paper tray, pull the paper release plate forward and remove the paper before loading the imaging film.

- ① Open the operation panel by grasping the finger hold and pulling up.

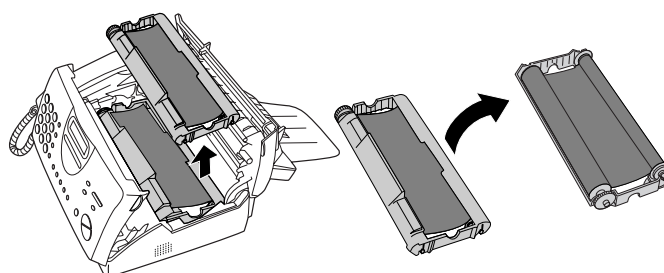


- ② Pull the green release on the right side of the machine forward, and open the print compartment cover.



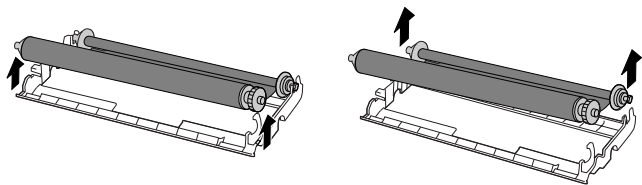
**If you are installing the imaging film for the first time, go to Step 6.**

- ③ Remove the imaging film cartridge from the print compartment (grasp the handle at the front of the cartridge) and turn it over.

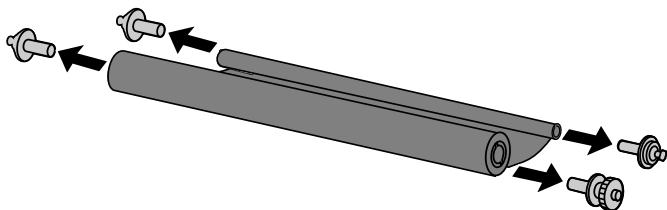




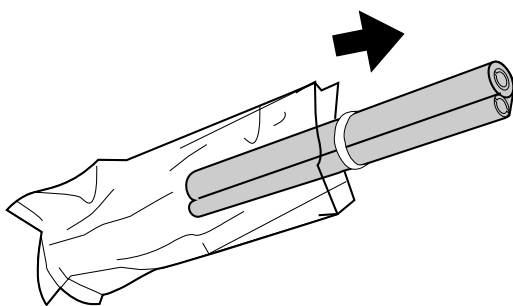
- ④ Remove the used film from the cartridge.



- ⑤ Remove the four green gears from the used film.  
**DO NOT DISCARD THE FOUR GREEN GEARS!**



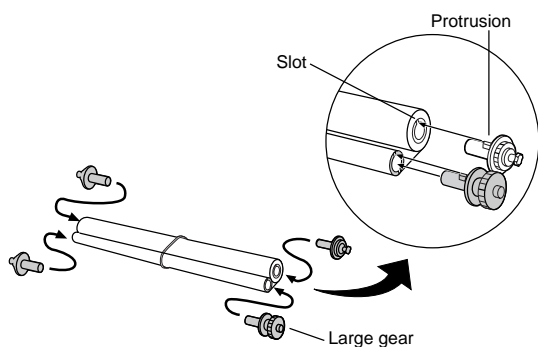
- ⑥ Remove the new roll of imaging film from its packaging.  
• Do not yet remove the band that holds the rolls together.



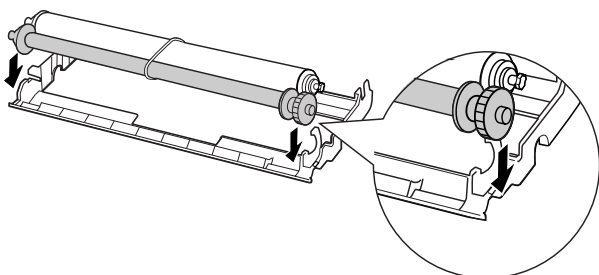
- ⑦ Insert the large gear into the green end of the empty spool. Make sure the two protrusions on the large gear fit firmly into the slots in the end of the spool.

Insert the remaining three gears into the spools, making sure the protrusion on each gear fits firmly into one of the slots in the end of each spool.

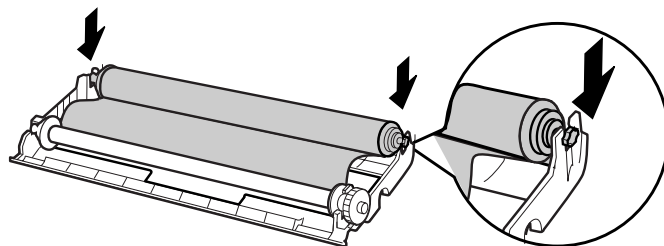
- If needed, pull the spools apart slightly to allow the gears to fit (the band will stretch).



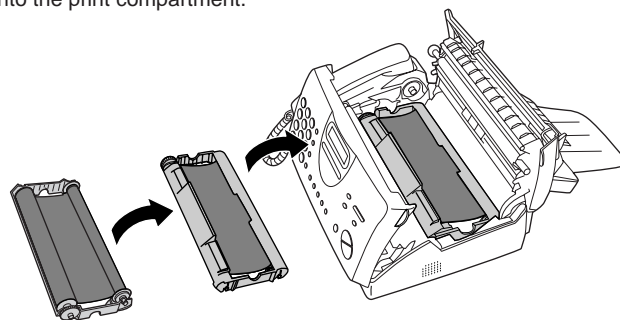
- ⑧ Insert the large gear into the large holder on the imaging film cartridge (make sure it clicks into place), and then insert the small gear on the other end of the spool into its holder.



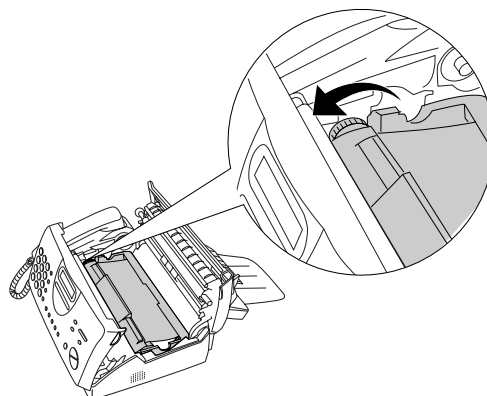
- ⑨ Cut the band that holds the two spools together. Unroll the film slightly and insert the small gears into their holders.



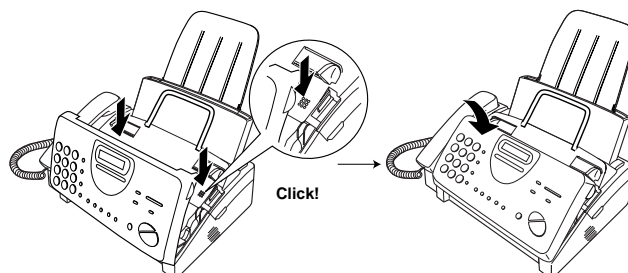
- ⑩ Turn the cartridge over, grasp the handle, and insert the cartridge into the print compartment.



- ⑪ Rotate the large gear toward you until the film is taut.



- ⑫ Close the print compartment cover (press down on both sides to make sure it clicks into place), and then close the operation panel.



- ⑬ Load paper in the paper tray and then press the following keys to initialize the film.

**Note:** Paper must be loaded before the film can be initialized. To load paper, see the following section, Loading Printing Paper.



#### When to replace the imaging film

Replace the imaging film when the display shows:

FIN DE PELICULA

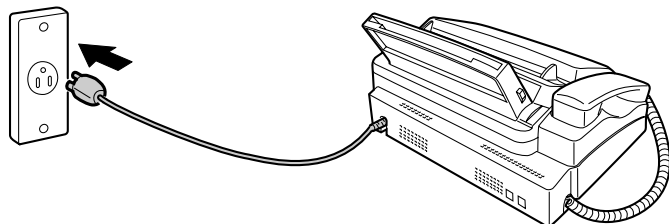
Use the following imaging film, which is available from your dealer or retailer: **Sharp UX-3CR Imaging Film**

### 3. Assembly and connections

- ① Plug the power cord into a standard voltage, 60Hz, grounded AC outlet.

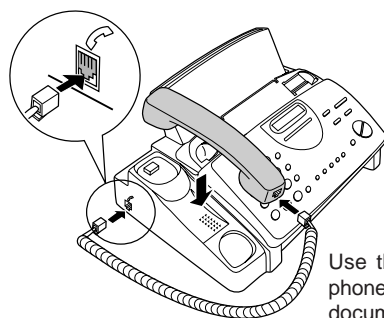
- **Caution:** Do not plug the power cord into any other kind of outlet. This will damage the machine and is not covered under the warranty.
- The machine does not have a power on/off switch, so the power is turned on and off by simply plugging in or unplugging the power cord.

**Note:** If your area experiences a high incidence of lightning or power surges, we recommend that you install surge protectors for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.



- ② Connect the handset as shown and place it on the handset rest.

- ♦ The ends of the handset cord are identical, so they will go into either jack.

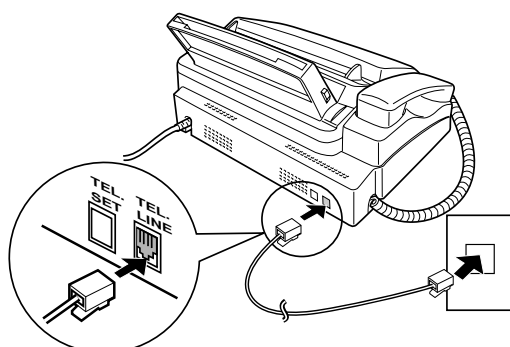


Make sure the handset cord goes into the jack marked with a handset symbol on the side of the machine!

Use the handset to make ordinary phone calls, or to transmit and receive documents manually.

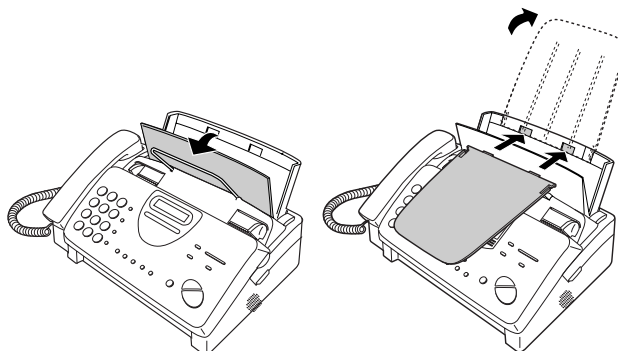
- ③ Insert one end of the telephone line cord into the jack on the back of the machine marked **TEL.LINE**. Insert the other end into a standard (RJ11C) single-line wall telephone jack.

Be sure to insert the telephone line cord into the **TEL.LINE** jack. **Do not** insert into the **TEL.SET** jack.



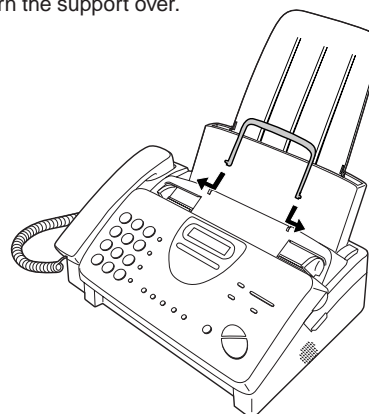
- ④ Attach the paper tray extension.

- ♦ Pull the paper release plate forward. Insert the paper tray extension horizontally into the notches in the paper tray. Rotate the paper tray extension up until it snaps into place.



- ⑤ Attach the original document support.

**Note:** The original document support has a top side and a bottom side. If you cannot insert the tabs on the support into the holes, turn the support over.



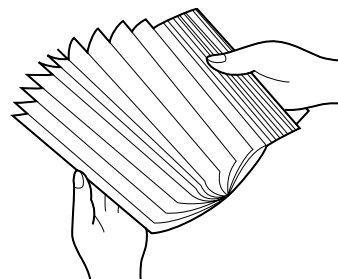
### 4. Loading printing paper

You can load letter or legal size paper in the paper tray. The maximum number of sheets depends on the weight and size of the paper you are loading.

- ♦ Paper from 16 to 20 lbs. (60 to 75 g/cm<sup>2</sup>):  
Letter size: 60 sheets      Legal size: 30 sheets
- ♦ Paper from 20 to 24 lbs. (75 to 90 g/cm<sup>2</sup>):  
Letter size: 50 sheets      Legal size: 25 sheets

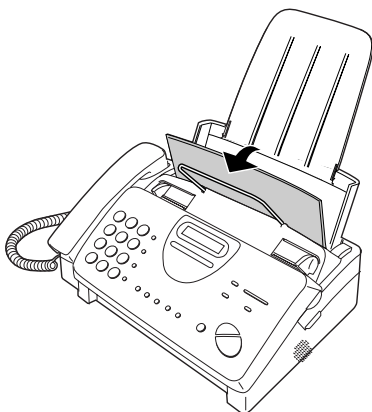
**Note:** If you are going to use letter size paper, remove the A4 paper guide from the right side of the paper tray.

- ① Fan the paper, and then tap the edge against a flat surface to even the stack.





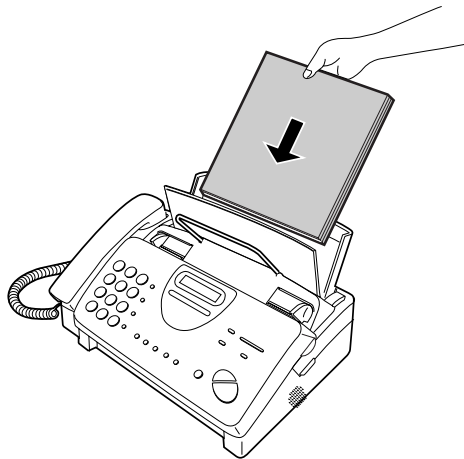
- ② Pull the paper release plate toward you.



- ③ Insert the stack of paper into the tray, **print side down**.

- If paper remains in the tray, take it out and combine it into a single stack with the new paper before adding the new paper.

Be sure to load the paper so that printing takes place on the **print** side of the paper. Printing on the reverse side may result in poor print quality.



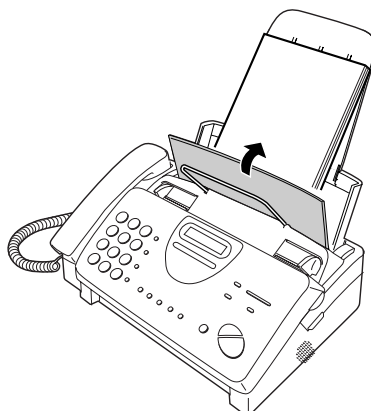
- ④ Push the paper release plate back down.

- If the paper release plate is not pushed down, paper feed errors will result.

**Note:** When receiving faxes or copying documents, do not allow a large number of pages to accumulate in the output tray. This may obstruct the outlet and cause paper jams.

**Note:** If the display shows the following alternating messages when making a copy or receiving a fax, check the paper tray. If the tray is empty, add paper and then press the **START/MEMORY** key. If there is paper, make sure it is inserted correctly and then press the **START/MEMORY** key.

COLOQUE PAPEL &  
↓ ↑  
OPRIMA EMPEZAR



- ⑤ The fax has been set at the factory to scale the size of received faxes to letter size paper. If you have loaded legal paper, you must change the paper size setting to legal. Press these keys:

The display will show: **FIJAR TAMAÑO PAG** **FUNCION** **6** → \* \*

Press **1** to select LETTER, **2** to select LEAGAL, or **3** select A4.

**LETTER** **1** or **LEAGAL** **2** or **A4** **3**

The display will show: **CORTE DE COPIA**

Press the **STOP** key to return to the date and time display.



- ⑥ Your fax has been set at the factory to print at normal contrast.

Depending on the type of paper you have loaded, you may find that you obtain better print quality by changing the setting to LIGHT.

Press these keys:

The display will show: **CONTRASTE IMPRES** **FUNCION** **6** → \* \* \*

Press **1** to select NORMAL or **2** to select LIGHT.

**NORMAL** **1** or **LIGHT** **2**

The display will show: **FIJAR TAMAÑO PAG**

Press the **STOP** key to return to the date and time display.



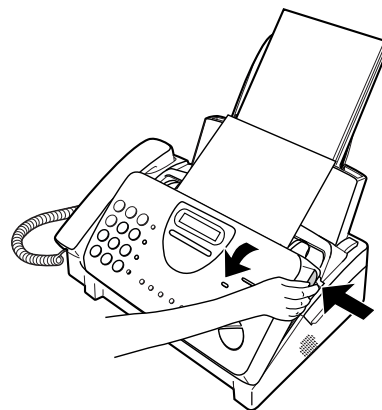
## 5. Clearing a jammed document

If the original document doesn't feed properly during transmission or copying, or **DOCUMENT JAMMED** appears in the display, first try pressing the **START/MEMORY** key. If the document doesn't feed out, open the operation panel and remove it.

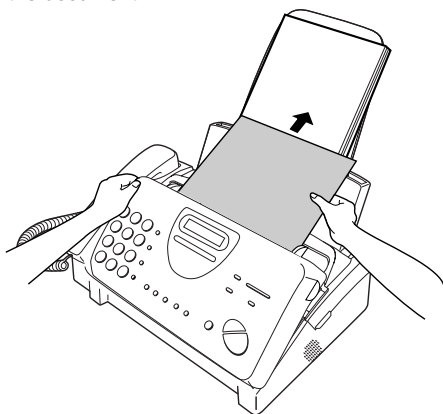
### Important:

Do not try to remove a document without opening the operation panel. This may damage the feeder mechanism.

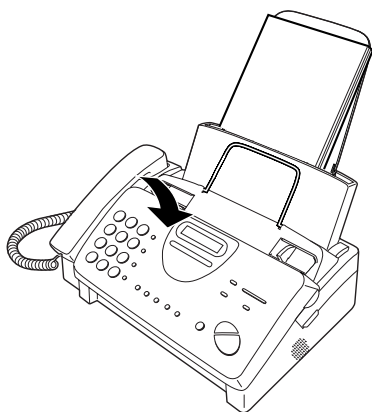
- ① Open the operation panel by grasping the finger hold and pulling up.



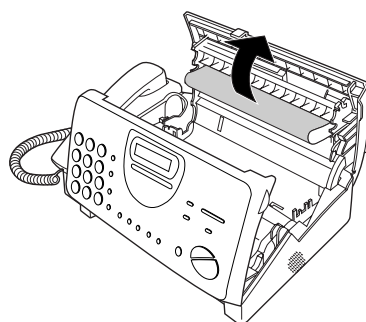
- ② Remove the document.



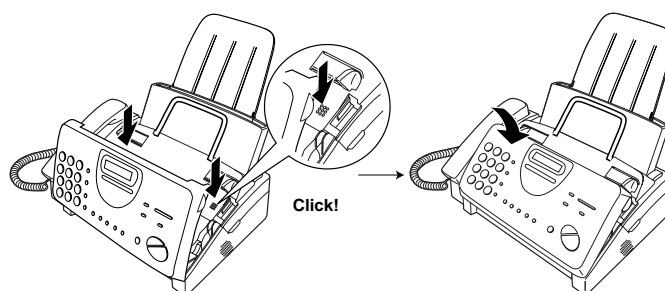
- ③ Close the operation panel, making sure it clicks into place.



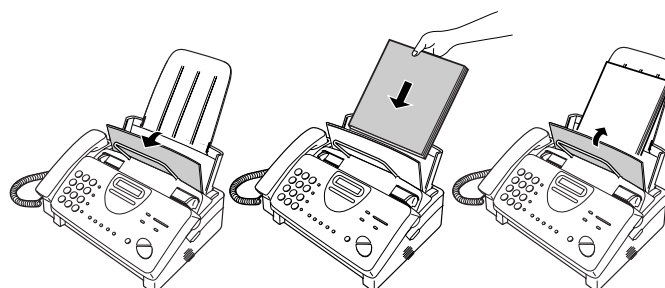
- ③ Gently pull the jammed paper out of the machine, making sure no torn pieces of paper remain in the print compartment or rollers.



- ④ Close the print compartment cover (press down on both sides to make sure it clicks into place), and then close the operation panel.

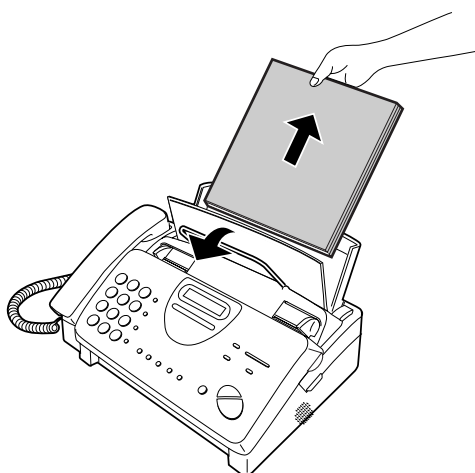


- ⑤ Pull the paper release plate toward you, reinsert the paper in the paper tray and push the paper release plate back down.

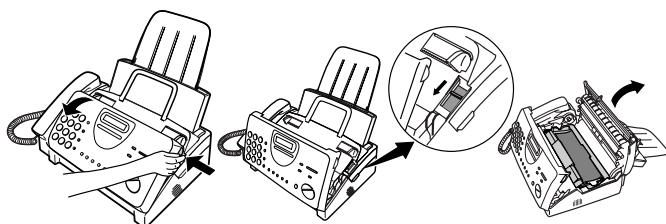


## 6. Clearing jammed printing paper

- ① Pull the paper release plate forward and remove the paper.



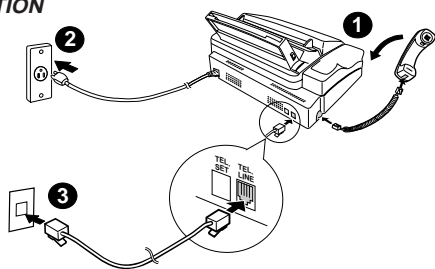
- ② Open the operation panel (grasp the finger hold and pull up), and then pull the release on the right side of the machine forward to open the print compartment cover.



If SET PAPER & PRESS START KEY appears in the display, make sure the paper is inserted correctly and then press the **START/MEMORY** key.

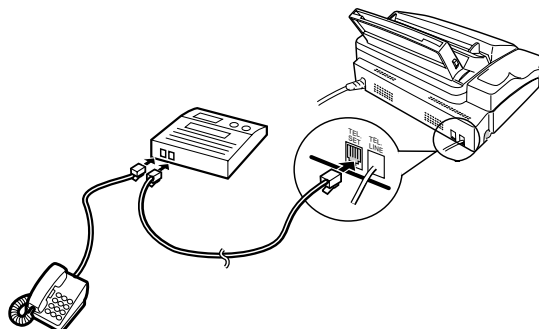
## [5] Quick reference guide

### INSTALLATION



1. Connect the handset as shown.
2. Plug the power cord into a grounded, standard voltage outlet.
3. Plug one end of the telephone line into the "TEL. LINE" jack on the rear of the fax, and the other end into your telephone wall jack.

### CONNECTING AN ANSWERING MACHINE AND/OR EXTENSION TELEPHONE



1. Remove the seal covering the "TEL. SET" jack on the rear of the fax. Connect an extension telephone or answering machine to the "TEL. SET" jack.
2. If desired, connect an extension phone to the answering machine.

### ENTERING YOUR NAME AND NUMBER

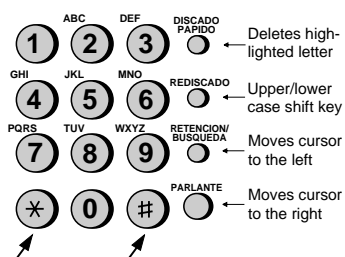
**Note:** Imaging film and paper must be loaded to perform the following operation.

1. Press: **FUNCION** **3** **#** **#**

Display shows: **FIJAR # PROPIO**

2. Press: **EMPEZAR/MEMORIA**
3. Enter your fax number (max. of 20 digits) by pressing the number keys.
  - ♦ If you make a mistake, press the **HOLD/SEARCH** key to move the cursor back to the mistake, then enter the correct number or letter.
4. Press: **EMPEZAR/MEMORIA**
5. Enter your name by pressing the appropriate number keys as shown below.
  - ♦ To enter two letters in succession that require the same key, press the **SPEAKER** key after entering the first letter.

A = 2 2	J = 5 5	S = 7 7 7 7 7 7
B = 2 2 2	K = 5 5 5	T = 8 8
C = 2 2 2 2 2	L = 5 5 5 5 5	U = 8 8 8
D = 3 3	M = 6 6	V = 8 8 8 8 8
E = 3 3 3	N = 6 6 6	W = 9 9
F = 3 3 3 3 3	O = 6 6 6 6 6	X = 9 9 9
G = 4 4	P = 7 7	Y = 9 9 9 9 9
H = 4 4 4	Q = 7 7 7 7	Z = 9 9 9 9 9 9
I = 4 4 4 4 4	R = 7 7 7 7 7	SPACE = 1 1



Press either key one or more times to select and enter a symbol.

6. When finished, press:



### SETTING THE DATE AND TIME

**Note:** Imaging film and paper must be loaded to perform the following operation.

- Press: **FUNCION** **3** **\*** **\*** **\***

Display shows: **FIJAR DIA/FECHA**

- Press the **START** key: **EMPEZAR/MEMORIA**
- Enter two digits for the Month (01 through 12).
- Enter two digits for the Day (01 through 31).
- Enter four digits for the Year (Ex: 2000).
- Enter two digits for the Hour (01 through 12).
- Enter two digits for the Minute (00 through 59).
- Press the **\*** key for A.M. or the **#** key for P.M.
- When finished, press:



### STORING AND CLEARING NUMBERS FOR AUTO DIALING

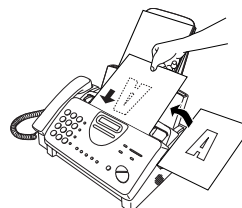
**Note:** Imaging film and paper must be loaded to perform the following operation.

1. Press: **FUNCION** **3** **#**

Display shows: **MODO # FAX/TEL**

2. Press **1** to store a number or **2** to clear a number.
3. Enter a 2-digit Speed Dial number (from 01 to 05 for Rapid Key Dialing, or 06 to 45 for Speed Dialing). (If you are clearing a number, go to Step 7.)
4. Enter the full telephone/fax number.
5. Press: **EMPEZAR/MEMORIA**
6. Enter the name of the location by pressing number keys (max. of 20 characters). (Refer to the letter entry table in **ENTERING YOUR NAME AND NUMBER**.)
7. Press: **EMPEZAR/MEMORIA** **PARE**

### SENDING DOCUMENTS



Place your document (up to 10 pages) face down in the document feeder.

#### Normal Dialing

1. Lift the handset or press **PARLANTE**
2. Dial the fax number.
3. Wait for the reception tone (if a person answers, ask them to press their Start key).
4. Press: **EMPEZAR/MEMORIA**

#### Rapid Key Dialing

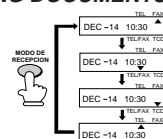
Press the appropriate Rapid Key. Transmission will begin automatically.

#### Speed Dialing

1. Press: **DISCADO RAPIDO**
2. Enter 2-digit Speed Dial number.
3. Press: **EMPEZAR/MEMORIA**

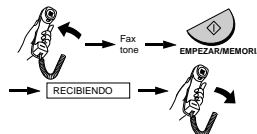
### RECEIVING DOCUMENTS

Press:



**FAX mode:** The fax automatically answers on 4 rings and receives the incoming document.

**TEL mode:**



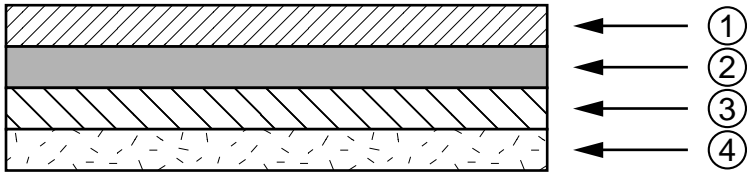
**TEL/FAX mode:** The fax machine automatically answers on 4 rings and receives faxes. Voice calls (including manually dialed fax transmissions) are signalled by a special ringing sound.

**TAD mode:** Select this mode when an answering machine is connected to the fax and the answering machine is turned on.

[6] Option imaging film specifications  
(UX-3CR)

1. Structure

This article is composed of polyester film coated with heat-resistant layer, matt layer and hot melt ink layer, leader film and paper core. Ink film specification is "DNP standard ink film HC".



- ① Heat Resistant Layer
- ② Base Film
- ③ Matt Layer
- ④ Hot melt Ink Layer

2. Details of compositions

2-1. Base film

Heading	Requirements	Measuring method
Material	Polyethylene-terephthalate	—

2-2. Heat resistant layer

Heading	Requirements	Measuring method
Grade	HR Mixer P-5	—

2-3. Matt layer

Heading	Requirements	Measuring method
Grade	ML Sumi	—

2-4. Hot melt ink layer

Heading	Requirements	Measuring method
Grade	#507W	—

## CHAPTER 2. ADJUSTMENTS

### [1] Adjustments

#### General

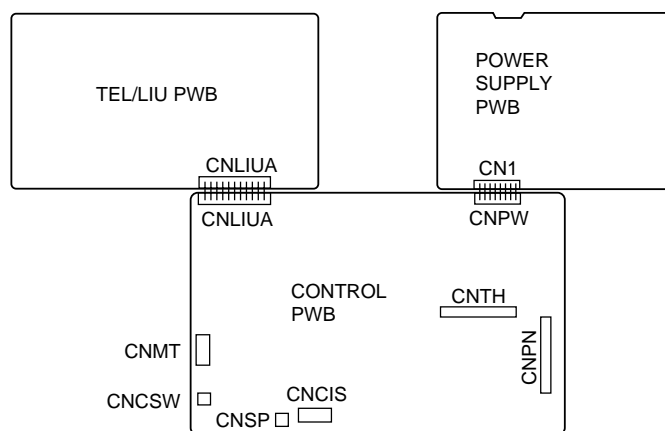
Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

#### 1. Adjustments

##### Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

##### Output voltage settings



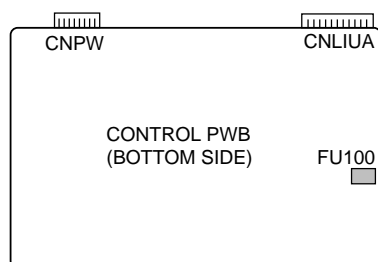
Output	Voltage limits
+5V	4.75V ~ 5.25V
+24V	23.3V ~ 24.7V

Connector No.	CNPW
Pin No.	
1	MG
2	MG
3	+24V
4	+24V
5	+24V
6	DG
7	+5V
8	DG

#### 2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:



- (1) FU100 (KAB2402) is installed in order to protect IC's from an over-current generated in the motor drive circuit. If FU100 is open, replace it with a new one.

### 3. Settings

#### (1) Dial mode selector

DIAL mode (Soft Switch No. SWB4 DATA No. 3)

(step 1) Select "FIJAR OPCIONES".

KEY: FUNCION ④

DISPLAY: FIJAR OPCIONES ⇌ OPRIMA X O #

(step 2) Select "MODO DISCADO".

KEY: Push # until "MODO DISCADO" is indicated because the number of #s changes by the model.

Cursor  
When initially registering,  
the mode shows 1=TONE.  
When registering again, the  
mode which was registered  
formerly is shown.

DISPLAY: MODO DISCADO ⇌ 1=TONO, 2=PULSO

(step 3) Select, using "1" or "2".

KEY: ①

DISPLAY: TONO SELECC.

KEY: ②

DISPLAY: PULSO SELECC.

(step 4) End, using the "PARE" key.

KEY: PARE

#### 4. Volume adjustment

You can adjust the volume of the speaker and ringer using the **ALTO** and **BAJO** keys.

##### (1) Speaker

- ① Press the **PARLANTE** key.

- ② Press the **ALTO** or **BAJO** key.

Display:

VOLUMEN: ALTO  
⇕  
VOLUMEN: MEDIO  
⇕  
VOLUMEN: BAJO

- ③ When the display shows the desired volume level, press the **PARLANTE** key to turn off the speaker.

##### (2) Ringer

- ① Press the **ALTO** or **BAJO** key. (Make sure the **PARLANTE** key has not been pressed and the handset is not lifted.)

Display:

TIMBRE: ALTO  
⇕  
TIMBRE: MEDIO  
⇕  
TIMBRE: BAJO  
⇕  
SIN TIMBRE: OK?

The ringer will ring once at the selected level, then the date and time will re-appear in the display.

- ② If you selected RINGER OFF: OK?, press the **EMPEZAR/MEMORIA** key.

[2] Diagnostics and service soft switch

1. Operating procedure

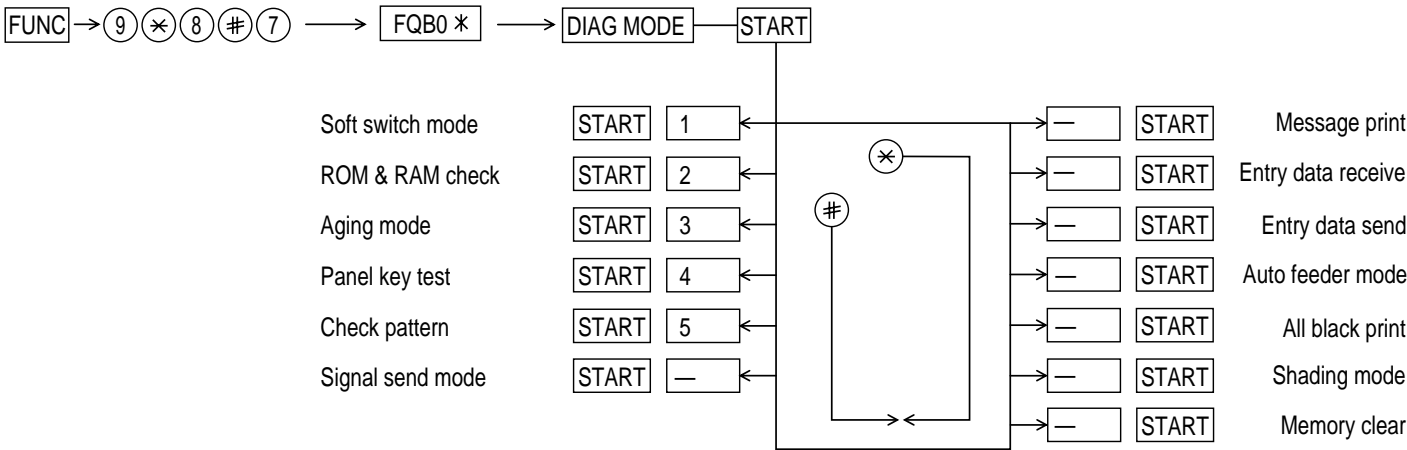
(1) Entering the diagnostic mode

Press **FUNC** → **9** → **✕** → **8** → **#** → **7** , and the following display will appear.

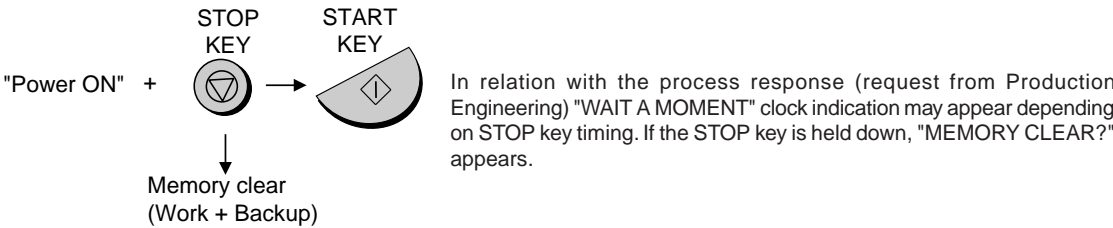
**ROM Ver. FQB0 ✕** After 2 sec: **DIAG MODE**

FQB0 ✕

Then press the **START** key. Select the desired item with the **✕** key or the **#** key or select with the rapid key. Enter the mode with the **START** key.  
(Diag•specifications)



If the diag mode cannot be set, repeat the diag mode operation, performing the following operation.  
After the power is turned on and "WAIT A MOMENT" is indicated, press the **STOP** key.



2. Diagnostic items

ITEM No.	DIRECT key	Contents	Function
1	1	SOFT SWITCH MODE	Soft switches are displayed and changed. List can be output.
2	2	ROM & RAM CHECK	ROM is sum-checked, and RAM is matched. Result list is output.
3	3	AGING MODE	10 sheets of check patterns are output every 5 minutes per sheet.
4	4	PANEL KEY TEST	Panel keys are tested. Result list is output.
5	5	CHECK PATTERN	Check pattern is output.
6	—	SIGNAL SEND MODE	Various signals of FAX communication are output.
7	—	MEMORY CLEAR	Back-up memory is cleared, and is set at delivery.
8	—	SHADING MODE	Shading compensation is performed in this mode.
9	—	ALL BLACK PRINT	To check the print head, whole dots are printed over the interval of 2 m.
10	—	AUTO FEEDER MODE	Insertion and discharge of document are tested.
11	—	ENTRY DATA SEND	Registered content is sent.
12	—	ENTRY DATA RECEIVE	Registered content is received, and its list is output.
13	—	MESSAGE PRINT	The display message of each language is printed out together with the English equivalent.



### 3. Diagnostic items description

#### 3. 1. Soft switch mode

Used to change the soft switch settings.

The soft switch which is stored internally is set by using the keys.

The available soft switches are SW-A1 to SW-N3.

The content of soft switches is shown in page 2-5 to 2-17.

The contents are set to factory default settings.

#### 3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test. The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.

Number of short sounds of buzzer 0 → No error

1 → ROM error

2 → RAM error (32Kbyte)

#### 3. 3. Aging mode

If any document is first present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5 minutes, and will be ended at a total of 10 sheets.

#### 3. 4. Panel key test

This mode is used to check whether each key operates properly or not. Press the key on the operation panel, and the key will be displayed on the display. Therefore, press all keys. At this time, finally press the STOP key.

When the STOP key is pressed, the keys which are not judged as "pressed" will be printed on the result list.

- LED part of the contact image sensor (CIS) is kept on during the term from when "START" of the panel test mode to end with the STOP key.

#### 3. 5. Check pattern

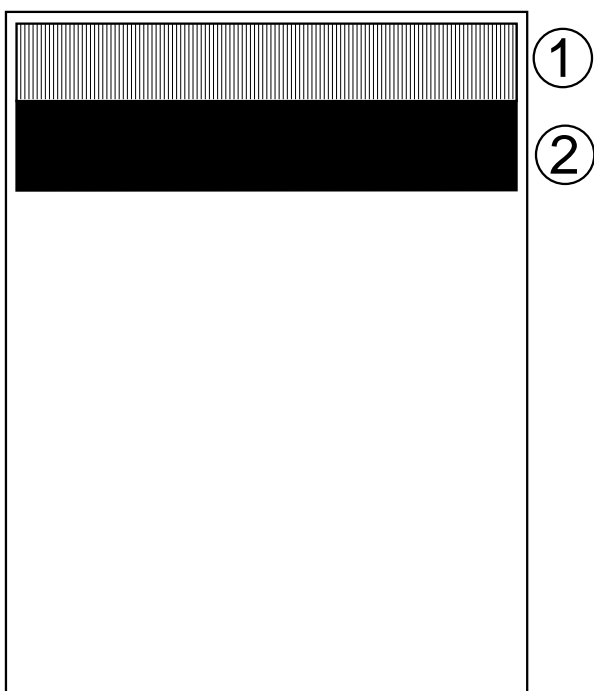
This mode is used to check the state of the printing head. It is ended with the following pattern printed on one printing sheet.

- ① Longitudinal stripe 2 Approx. 30 mm

2 black dots and 2 white dots are repeatedly progressed on one line.

- ② Full black

Approx. 30 mm



#### 3. 6. Signal send mode

This mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

- [1] No signals
- [2] 14400BPS (V.33)
- [3] 12000BPS (V.33)
- [4] 14400BPS (V.17)
- [5] 12000BPS (V.17)
- [6] 9600BPS (V.17)
- [7] 7200BPS (V.17)
- [8] 9600BPS (V.29)
- [9] 7200BPS (V.29)
- [10] 4800BPS (V27ter)
- [11] 2400BPS (V27ter)
- [12] 300BPS (FLAG)
- [13] 2100Hz (CED)
- [14] 1100Hz (CNG)
- [15] PSEUDO RINGER

#### 3. 7. Memory clear

This mode is used to clear the backup memory and reset to the default settings.

#### 3. 8. Shading mode

The mode is used for the shooting compensation. For reading, set up the special original paper.

The shooting compensation memorizes the reference data of white and black for reading.

Moreover, the memorized data is not erased even if memory clear mode is executed.

#### 3. 9. All black print

This mode is used to check the state of the printing head and intentionally overheat it. Whole dots are printed over the interval of 2 m. If it is overheated or the printing sheet is jammed, press STOP key for the end.

#### 3. 10. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function.

After this mode is started, set a document, and the document feed will be automatically tested.

#### 3. 11. Entry data send

This mode is used to send the registered data to the other machine and make the other machine copy the registered content.

Before sending in this mode, it is necessary to set the other machine at the entry data receive mode.

The following, information will be sent to the remote machine:

1. Telephone list data
2. Sender register data
3. Optional setting content
4. Soft switch content
5. Junk fax number list
6. Timer reservation data (only on the model which timer reservation is possible)
7. Recording setting list data

3. 12. Entry data receive

In this mode, the registered data sent from the other machine is received and the received data is registered in the machine. When this mode is used for receiving, the other machine must be in the entry data send mode.

After receiving is completed, the following lists are printed.

- 1. Telephone list data
- 2. Sender register data (The passcode No. is also printed if the polling function is provided.)
- 3. Optional setting list
- 4. Soft switch content
- 5. Junk fax number list
- 6. Timer reservation list (only model which timer communication is possible)
- 7. Recording setting list data

4. How to make soft switch setting

To enter the soft switch mode, press the following key entries in sequence.

Press FUNCTION 9 \* 8 # 7 START START

DATA No.      1 2 3 4 5 6 7 8

S F T SW-A1 =	0	0	0	0	0	0	0	0
S F T SW-A1 =	1	0	0	0	0	0	0	0
S F T SW-A1 =	1	0	0	0	0	0	0	0
S F T SW-A1 =	1	0	0	0	0	0	0	0
S F T SW-A1 =	1	0	0	0	0	0	0	0
S F T SW-A2 =	0	0	0	0	0	0	0	0
S F T SW-N3 =	0	0	0	0	0	0	0	0

Press FUNCTION key.

Press # key.

Press \* key.

Bit1 - 8 are set.

Press START key during setting.

Soft SW-A2 - SW-N3 are set.

- To finish the settings halfway between SW-A1 and SW-N3, press the STOP key. In this case, the setting being done to the SW No. on display will be nullified while settings done to the preceding SW No. remain in effect.
- When the COPY key is pressed, the contents of soft switches are printed.

The soft switch mode is terminated.

3. 13. Message print

In this mode, all the message data, which are used for displaying indication and list print, are printed as a contrast table of the selected language and English.

## 5. Soft switch description

### • Soft switch

SW NO.	DATA NO.	ITEM	Switch setting and function								Initial setting	Remarks			
			1				0								
SW I A1	1	Protect from echo	No				Yes				0				
	2	Forced 4800 BPS reception	Yes				No				0				
	3	Footer print	Yes				No				0				
	4	Length limitation of copy/send/receive	No limit				Copy/send: 60cm Receive: 1m				0				
	5	CSI transmission	No transmitted				Transmitted				0				
	6	DIS receive acknowledgement during G3 transmission	Twice				NSF: Once DIS: Twice				0				
	7	Non-modulated carrier for V29 transmission mode	Yes				No				0				
	8	EOL detect timer	25 s				13 s				0				
SW I A2	1 2 3 4	Modem speed	V.33		V.17				V.29		V.27 ter		1 0 0 0		
			14400	12000	14400	12000	9600	7200	9600	7200	4800	2400			
			0	0	1	1	1	1	0	0	0	0			
			1	1	0	0	0	0	0	0	0	0			
			0	1	0	1	0	1	0	1	1	0			
	4		0	0	0	0	1	1	1	0	0				
	5	Sender's information transmit	No				Yes				0				
	6	Reserved									0				
	7	Communication error treatment in RTN sending mode (reception)	No communication error				Communication error				0				
	8	CNG transmission	No				Yes				0				
SW I A3	1 2	CED tone signal interval			1000ms		750ms		500ms		75ms		0 0		
			No. 1		1		1		0		0				
			No. 2		1		0		1		0				
	3	MR coding	No				Yes				0				
	4	ECM mode	No				Yes				0	OPTION			
	5	ECM MMR mode	No				Yes				0				
	6	Reserved									0				
	7	Reserved									0				
8	Reserved									0					
SW I A4	1 2 3 4 5	Signal transmission level	Binary input No. = 16 8 4 2 1 1 2 3 4 5 0 1 0 1 0								0 1 0 1 0				
			6	Protocol monitor (error print)	Printed at com. error				Not printed				0		
					Yes				No				0		
					Yes				No				0		
													0		
	3 4	Digital line equalization setting (Transmission)			7.2km		3.6km		1.8km		0km		0 1		
			No. 3		1		1		0		0				
			No. 4		1		0		1		0				
5 6	Digital cable equalizer setting (Reception for Caller ID)			7.2km				0km				0 0			
		No. 5		1				0							
		No. 6		1				0							
7	Error criterion	10 ~ 20 %				5 ~ 10 %				0					
8	Anti junk fax check	Yes				No				0	OPTION				

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1		0				
SW I A6	1	Auto gain control (MODEM)	Enable		Disable			1	
	2	End Buzzer	Yes		No			1	
	3	Disconnect the line when DIS is received in RX mode	No		Yes			1	
	4	Equalizer freeze control (MODEM)	On		Off			0	
	5	Equalizer freeze control 7200 BPS only	No		Yes			0	
	6	CNG transmission in manual TX mode	Yes		No			1	
	7	Reserved						0	
	8	Modem speed automatic fallback when RX level is under -40dBm	Yes		No			0	
SW I B1	1	Recall interval	Binary input					0	OPTION
	2		No. = 8 4 2 1					1	
	3		1 2 3 4					0	
	4		0 1 0 1					1	
	5	Recall times	Binary input					0	OPTION
	6		No. = 8 4 2 1					0	
	7		5 6 7 8					1	
	8		0 0 1 0					0	
SW I B2	1	Dial pausing (sec/pause)	4 sec		2 sec			0	
	2	Dial tone detection (before auto dial)	No		Yes			1	
	3	Reserved						0	
	4	Busy tone detection (after auto dial)	No		Yes			1	
	5	Waiting time after dialing		45 seconds	55 seconds	90 seconds	140 seconds	0	
	6		No.5	0	0	1	1		
	7	Reserved						0	
	8	Reserved						0	
SW I B3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Auto dial mode delay timer of before line connect		0 second	1.5 seconds	3.0 seconds	4.5 seconds	0	
	7		No.6	0	0	1	1		
	8	Hold key	Enable		Disable			1	
SW I B4	1	Auto dial mode delay timer of after line connect		1.7 seconds	3.0 seconds	3.6 seconds	4.0 seconds	0	
	2		No.1	0	0	1	1		
	3		No.2	0	1	0	1		
	4	Dial mode	Tone		Pulse			1	OPTION
	5	Pulse → Tone change function by ✕ key	Enable		Disable			1	
	6	Dial pulse make/break ratio (%)	40/60		33/67			1	
	7	Reserved						0	
	8	Reserved						0	
SW I B5	1	DTMF signal transmission level (Low)	Binary input					0	
	2		No. = 16 8 4 2 1					1	
	3		1 2 3 4 5					0	
	4		0 1 0 1 1					1	
	5							1	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks	
			1		0					
SW I B6	1	DTMF signal transmission level (High)	Binary input					0		
	2		No. = 16 8 4 2 1					0		
	3		1 2 3 4 5					1		
	4		0 0 1 1 1					1		
	5							1		
	6	Reserved						0		
	7	Reserved						0		
	8	Reserved						0		
SW I C1	1 2	Reading slice (Binary)		Factory setting	Light	Dark	Darker in dark	0 0		
			No. 1	0	1	0	1			
			No. 2	0	0	1	1			
	3 4	Reading slice (Half tone)		Factory setting	Light	Dark	Darker in dark	0 0		
			No. 3	0	1	0	1			
			No. 4	0	0	1	1			
	5	Line density selection	Fine			Standard			0	OPTION
	6	Reserved							0	
	7	MTF correction in half tone mode	No			Yes			0	
	8	Reserved							0	
SW I D1	1	Number of rings for auto receive	Binary input					0	OPTION	
	2		No. = 8 4 2 1					1		
	3		1 2 3 4					0		
	4		0 1 0 0					0		
	5	Automatic switching manual to auto receive mode	Reception after 5 rings			No reception			0	
	6	Reserved							0	
	7 8	CI detect frequency		As PTT	11.5Hz	13.0Hz	20.0Hz	0 0		
			No.7	0	0	1	1			
SW I D2	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Caller ID function	Yes			No			0	OPTION
	6	Caller ID detect during CI off	All times			Only first			0	
	7	Reserved							0	
	8	Reserved							0	
SW I D3	1	CI off detection timer (0-1550ms setting by 50ms step)	Binary input					0		
	2		No. = 16 8 4 2 1					1		
	3		1 2 3 4 5					1		
	4		0 1 1 1 0					1		
	5							0		
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks	
			1			0				
SW I E1	1	Tel/Fax Automatic switching mode	Tel/Fax auto switch			Switch to Fax			1	
	2	Pseudo ringing time at phone/fax automatic switching mode		15sec	60sec	30sec	120sec	0	OPTION	
	3		No. 2	0	0	1	1			
		No. 3	0	1	0	1	0			
	4	Number of CNG signal detection at the tel/fax automatic switching mode	Twice			Once			1	
	5	CNG detection when TEL/FAX mode	3sec			5sec			0	
	6	Reserved							0	
	7	Reserved							1	
8	Reserved							1		
SW I E2	1	Pseudo ringer sound volume	Binary input					1		
	2		No. = 8 4 2 1					0		
	3		1 2 3 4					1		
	4		1 0 1 0					0		
	5	Reserved							1	
	6	Reserved							0	
	7	Reserved							1	
	8	Reserved							0	
SW I E3	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW I F1	1	DTMF detection time		50ms	80ms	100ms	120ms	0		
	2		No. 1	0	0	1	1			
			No. 2	0	1	0	1			
	3	Protection of remote reception (5 ㄫㄫ ) detect	Yes			No			0	OPTION
	4	Remote reception with GE telephone	Compatible			Not compatible			1	
	5	Remote operation code figure by external TEL (0~9)	Binary input					0	OPTION	
	6		No. = 8 4 2 1					1		
	7		5 6 7 8					0		
8		0 1 0 1					1			
SW I F2	1	CNG detection in STAND-BY mode	Yes			No			1	OPTION
	2	Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses	0		
	3		No. 2	0	0	1	1			
		No. 3	0	1	0	1	1			
	4	Number of CNG detect (STAND-BY mode)		1pulse	2pulses	3pulses	4pulses	0		
	5		No. 4	0	0	1	1			
		No. 5	0	1	0	1	1			
	6	Reserved							0	
7	Reserved							0		
8	Reserved							0		
SW I G1	1	Quiet detect time	Binary input					0	OPTION	
	2		No. = 8 4 2 1					1		
	3		1 2 3 4					0		
	4		0 1 0 0					0		
	5	Quiet detect start timing	Binary input					0		
	6		No. = 8 4 2 1					1		
	7		5 6 7 8					0		
	8		0 1 0 1					1		



SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks	
			1		0					
SW I G2	1	Reserved						0		
	2	Reserved						0		
	3	Reserved						0		
	4	Reserved						0		
	5	Reserved						0		
	6	Reserved						0		
	7	Reserved						0		
	8	Reserved						0		
SW I G3	1 2	OGM detect timer		Not work	100ms	200ms	300ms	0 1		
			No. 1	0	0	1	1			
			No. 2	0	1	0	1			
	3	Reserved							0	
	4	Reserved							0	
	5 6	Section time of quiet detection		30s	40s	50s	60s	0 1		
			No. 5	0	0	1	1			
			No. 6	0	1	0	1			
	7	Choice after quiet detect	Wait response for 3sec			Normal FAX RX			0	
8	Reserved							0		
SW I H1	1 2	Busy tone detection ON/OFF time (Lower duration)		150ms	200ms	250ms	350ms	0 1		
			No. 1	0	0	1	1			
			No. 2	0	1	0	1			
	3 4	Busy tone detection ON/OFF time (Upper duration)		650ms	900ms	1500ms	2700ms	0 1		
			No. 3	0	0	1	1			
			No. 4	0	1	0	1			
	5	Reserved							0	
	6	Busy tone detect continuation sound detect (during ICM: for internal A.M.)	No			Yes			0	
	7	Reserved							0	
8	Busy tone detect intermittent sound detect (during ICM: for internal A.M.)	No			Yes			0		
SW I H2	1 2	Busy tone detection pulse number		2pulses	4pulses	6pulses	10pulses	0 1		
			No. 1	0	0	1	1			
			No. 2	0	1	0	1			
	3	Fax switching when A.M. full	Yes			No			0	OPTION
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
8	Busy tone continuous sound detect time	5s			10s			1		
SW I I1	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW I I2	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Reserved							0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1		0				
SW I 13	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I 14	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I 15	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I 16	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I 17	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I J1	1	Activity report print	Automatic printout		No printout when memory full			0	OPTION
	2	Total communication hours and pages print	No		Yes			0	
	3	Sender's phone number setting	Cannot change		Change allowed			0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Ringer volume		Off	Low	Middle	High	1	OPTION
	8		No. 7	0	0	1	1		
		No. 8	0	1	0	1	0		

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks	
			1		0					
SW I J2		Speaker volume (3 stages)		Low	Low	Middle	High	1 0	OPTION	
	1	No. 1	0	0	1	1				
	2	No. 2	0	1	0	1				
	3	Polling key	Yes		No			0	OPTION	
	4	Reserved						1		
	5	Reserved						0		
	6	Reserved						0		
	7	Reserved						0		
8	Reserved						0			
SW I J3	1	Automatic cover sheet	Yes		No			0	OPTION	
	2 3 4	Communication results printout (Transaction report)		E/T/M	Send only	Always	No print	Err only	1 0 0	OPTION
			No. 2	0	0	0	0	1		
			No. 3	0	0	1	1	0		
			No. 4	0	1	0	1	0		
	5	Reserved						0		
	6	Reserved						0		
	7	Reserved						0		
8	Reserved						0			
SW I K1	1	Entering DIAG mode by pressing SPEED key	Yes		No			0		
	2	Reserved						0		
	3	Reserved						0		
	4	Reserved						0		
	5	Reserved						0		
	6	Reserved						0		
	7	Reserved						0		
	8	Reserved						0		
SW I L1	1	Reserved						0		
	2	Reserved						0		
	3	Reserved						0		
	4	Reserved						0		
	5	Cut off mode (COPY mode)	Yes		No			1	OPTION	
	6	A4 paper enable	Enable		Disable			1		
	7	LEGAL & LETTER paper enable	Enable		Disable			1		
	8	2 IN 1 Mode	Yes		No			0	OPTION	
SW I L2	1 2	Paper set size		LETTER	LEGAL	A4	1 0	OPTION		
			No. 1	0	0	1				
			No. 2	0	1	0				
	3	Automatic reduce of receive	Auto		100 %			1	OPTION	
	4	Print contrast	Light		Normal			0	OPTION	
	5	Reception reduction ratio in case of memory full	100 %		93 %			0	OPTION	
	6	Reserved						0		
	7	Reserved						0		
8	Reserved						0			
SW I M1	1	Reserved						0		
	2	Reserved						0		
	3	Reserved						0		
	4	Reserved						0		
	5	Reserved						0		
	6	Reserved						0		
	7	Reserved						0		
	8	Reserved						0		

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I M2	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I N1	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I N2	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I N3	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

## • Soft switch function description

### SW-A1 No. 1 Protect from echo

Used to protect from echo in reception.

### SW-A1 No. 2 Forced 4800BPS reception

When line conditions warrant that receptions take place at 4800 BPS repeatedly.

It may improve the success of receptions by setting at 4800BPS.

This improves the receiving document quality and reduces handshake time due to fallback during training.

### SW-A1 No. 3 Footer print

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

### SW-A1 No. 4 Length limitation of copy/send/receive

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 0.6 meter for copy or transmit, and 1 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

### SW-A1 No. 5 CSI transmission

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

### SW-A1 No. 6 DIS receive acknowledgment during G3 transmission

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSF). It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

### SW-A1 No. 7 Non-modulated carrier for V29 transmission mode

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT recommendation, it may be permitted to send non-modulated carrier before the image signal to avoid an echo suppression problem. It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

### SW-A1 No. 8 EOL (End Of Line) detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.

This is effective to override communication failures with some facsimile models that have longer EOL detection.

### SW-A2 No. 1 ~ No. 4 Modem speed

Used to set the initial modem speed. The default is 9600BPS.

It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

### SW-A2 No. 5 Sender's information transmit

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

### SW-A2 No. 6 Reserved

Set to "0".

### SW-A2 No. 7 Communication error treatment in RTN sending mode (Reception)

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

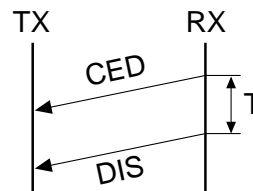
### SW-A2 No. 8 CNG transmission

When set to "0", this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case, CNG transmission can be performed in the auto dial mode.

### SW-A3 No. 1, No. 2 CED tone signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, this setting is used to change the time between the CED tone signal to eliminate the communication caused by echo.



### SW-A3 No. 3 MR Coding

MR Coding is enable.

### SW-A3 No. 4 ECM mode

Used to determine ECM mode function. Refer to following table.

SW-A3 No.4 ECM MODE		0	0	1	1
SW-A3 No.5 ECM MMR MODE		0	1	0	1
Compression method	ECM MMR mode	Yes	No	No	No
	ECM MH mode	Yes	Yes	No	No
	MR Mode	Yes	Yes	Yes	Yes

(Depending on remote machine)

### SW-A3 No. 5 ECM MMR mode

See SW-A3 No. 4.

### SW-A3 No. 6 ~ No. 8 Reserved

Set to "0".

### SW-A4 No. 1 ~ No. 5 Signal transmission level

Used to control the signal transmission level in the range of 0dB to -31dB.

### SW-A4 No. 6 Protocol monitor (Error print)

If set to "1", protocol is printed at communication error.

### SW-A4 No. 7 Protocol monitor

Normally set to "0". If set to "1", communication can be checked, in case of trouble, without using a G3 tester or other tools.

When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data is analysed and printed out. When data is received with the line monitor (SW-A4 No. 8) set to "1" the reception level is also printed out.

### SW-A4 No. 8 Line monitor

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

### SW-A5 No. 1, No. 2 Digital line equalization setting (Reception)

Line equalization when reception is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

### SW-A5 No. 3, No. 4 Digital line equalization setting (Transmission)

Line equalization when transmitter is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

**SW-A5 No. 5, No. 6 Digital cable equalizer setting (Reception for Caller ID)**

Line equalization when reception for CALLER ID is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

**SW-A5 No. 7 Error criterion**

Used to select error criterion for sending back RTN when receiving image data.

**SW-A5 No. 8 Anti junk fax check**

When using the Anti junk fax function, set to "1".

**SW-A6 No. 1 Auto gain control (MODEM)**

When this mode is enabled, if the reception signal level is under 31dBm, the modem itself controls the signal gain automatically.

**SW-A6 No. 2 End buzzer**

Setting this bit to 0 will disable the end buzzer (including the error buzzer/on-hook buzzer).

**SW-A6 No. 3 Disconnect the line when DIS is received in RX mode**

Bit1= 0: When DIS signal is received during RX mode, the line is disconnected immediately.

Bit1= 1: When DIS signal is received during RX mode, the line is disconnected on the next tone.

**SW-A6 No. 4 Equalizer freeze control (MODEM)**

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in an unfavorable state and picture cannot be received.

\* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

**SW-A6 No. 5 Equalizer freeze control 7200BPS only**

Setting which specifies SW-A3 No. 6 control only in the condition of 7200BPS modem speed.

**SW-A6 No. 6 CNG transmission in manual TX mode**

When set to "1", fax transmit the CNG signal in case of manual transmission mode (User press the START key after waiting for the fax answering signal from handset or speaker).

**SW-A6 No. 7 Reserved**

Set to "0".

**SW-A6 No. 8 Modem speed automatic fallback when RX level is under -40dBm**

When set to "1", if fax signal level is under -40dBm during reception, machine selects the slower modem speed automatically. It is effective when noises occur on the received document due to the long distance communications.

**SW-B1 No. 1 ~ No. 4 Recall interval**

Choice is made for a redial interval for speed and rapid dial calls. Use a binary number to program this. If set to 0 accidentally, 1 will be assumed.

**SW-B1 No. 5 ~ No. 8 Recall times**

Choice is made as to how many redials there should be.

**SW-B2 No. 1 Dialing pause (sec/pause)**

Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

**SW-B2 No. 2 Dial tone detection (before auto dial)**

Used to set YES/NO of dial tone detection in auto dialing.

**SW-B2 No. 3 Reserved**

Set to "0".

**SW-B2 No. 4 Busy tone detection (after auto dial)**

Used to set busy tone detection in auto dialing.

**SW-B2 No. 5, No. 6 Waiting time after dialing**

This is time waiting for the opponent's signals after dialing.

**SW-B2 No. 7, No. 8 Reserved**

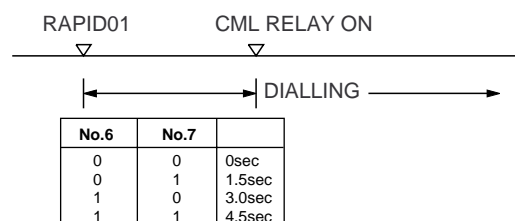
Set to "0".

**SW-B3 No. 1 ~ No. 5 Reserved**

Set to "0".

**SW-B3 No. 6, No. 7 Auto dial mode Delay timer of before line connect**

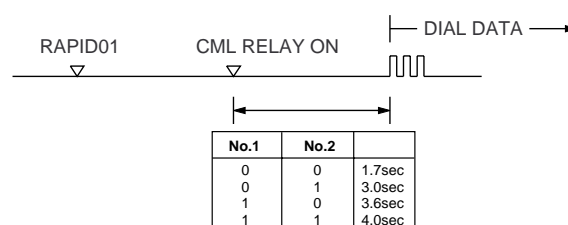
Delay time between the dial key input and line connection under the auto dial mode.

**SW-B3 No. 8 Hold key**

Used to set YES/NO of holding function by the HOLD key.

**SW-B4 No. 1, No. 2 Auto dial mode Delay timer of after line connect**

Delay time between the line connection and dial data output under the auto dial mode.

**SW-B4 No. 3 Dial mode**

When using the pulse dial, set to 1. When using the tone dial, set to 0.

**SW-B4 No. 4 Pulse → Tone change function by ✕ key**

When setting to 1, the mode is changed by pressing the ✕ key from the pulse dial mode to the tone dial mode.

**SW-B4 No. 5 Dial pulse make/break ratio (%)**

When using the 33% make ratio pulse dial, set to "0".  
When using the 40% make ratio pulse dial, set to "1".

**SW-B4 No. 6, No. 7 Reserved**

Set to "0".

**SW-B4 No. 8 Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal**

When dialing results in failure since the busy tone cannot be detected, recalling is fixed to one time.

Supplementary explanation

If time-out termination is made when dialing, only single recall is possible even if the setting time of recalls (SW-B1 No. 5 - No. 8) has been set to some times. This soft switch is added in order to meet FCC.

**SW-B5 No. 1 ~ No. 5 DTMF signal transmission level (Low)**

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0dBm

↓

11111: -15.5dBm (-0.5dBm x 31)

**SW-B5 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-B6 No. 1 ~ No. 5 DTMF signal transmission level (High)**

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0dBm

↓

11111: -15.5 dBm (-0.5dBm x 31)



**SW-B6 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-C1 No. 1, No. 2 Reading slice (Binary)**

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

**SW-C1 No. 3, No. 4 Reading slice (Half tone)**

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

**SW-C1 No. 5 Line density selection**

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

**SW-C1 No. 6 Reserved**

Set to "0".

**SW-C1 No. 7 MTF correction in half tone mode**

This allows selection of MTF correction (dimness correction) in the half tone mode.

When "NO" (=1) is selected, the whole image becomes soft and mild. Clearness of characters will be reduced. Normally set to "YES" (=0).

**SW-C1 No. 8 Reserved**

Set to "0".

**SW-D1 No. 1 ~ No. 4 Number of rings for auto receive**

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to 1, direct connection is made to the facsimile. If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to 0 accidentally, receive ring is set to 1.

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully. If you have difficulty receiving faxes, reduce the number of rings to a maximum of 6.

**SW-D1 No. 5 Automatic switching manual to auto receive mode**

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"1"(5 rings).

**SW-D1 No. 6 Reserved**

Set to "0".

**SW-D1 No. 7, No. 8 CI detect frequency**

Detection frequency of ring signal for auto reception is set.

When set to No. 6=0, No. 7=0, frequency is set to PTT recommendation.

When set to No. 6=0, No. 7=1, frequency is set to 11.5Hz or more.

When set to No. 6=1, No. 7=0, frequency is set to 13.0Hz or more.

When set to No. 6=1, No. 7=1, frequency is set to 20.0Hz or more.

**SW-D2 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW-D2 No. 5 Caller ID function**

Used for Caller ID function.

**SW-D2 No. 6 Caller ID detect during CI off**

Detection of caller ID signal is performed as follows:

0:First CI OFF only

1:All of CI OFF

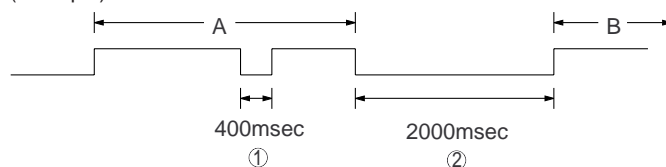
**SW-D2 No. 7, No. 8 Reserved**

Set to "0".

**SW-D3 No. 1 ~ No. 5 CI off detection timer (0-1550ms setting by 50ms step)**

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section with 50ms steps.

(Example)



01110 (50ms ~ 14):

700ms (CI interruption>700ms:Judged as a CI OFF section)

The section 1 is not judged as a CI OFF section, the CI signal A is counted as one signal.

The section 2 is judged as a CI OFF section, the CI signal B is considered as the second signal.

00111 (50ms ~ 7):

350ms (CI interruption>350ms:Judged as a CI OFF section)

The section 1 is judged as a CI OFF section, and the CI signal A is counted as two signals.

The section 2 is judged as a CI OFF section, and the CI signal B is considered as the third signal.

**SW-D3 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-E1 No. 1 Tel/Fax Automatic switching mode**

Used to set auto TEL/FAX switching mode or to set the normal fax mode.

**SW-E1 No. 2, No. 3 Pseudo ringing time at the phone/fax automatic switching mode**

Choice is made as to how long to rumble the dummy ringer on TEL/FAX automatic switching mode.

**SW-E1 No. 4 Number of CNG signal detection at the phone/fax automatic switching mode**

Used for detection of CNG in one tone or two tones in the TEL/FAX automatic switching mode.

**SW-E1 No. 5 CNG detect time at TEL/FAX mode**

The switch which sets the time from the start of CNG detection to the end of detection.

**SW-E1 No. 6 Reserved**

Set to "0".

**SW-E1 No. 7, No. 8 Reserved**

Set to "1".

**SW-E2 No. 1 ~ No. 4 Pseudo ringer sound volume**

Used to adjust sound volume of pseudo ringer to the line (ringer back tone) generated on selecting TEL/FAX. Setting is the reduce level from -5dBm output level.

**SW-E2 No. 5 Reserved**

Set to "1".

**SW-E2 No. 6 Reserved**

Set to "0".

**SW-E2 No. 7 Reserved**

Set to "1".

**SW-E2 No. 8 Reserved**

Set to "0".

**SW-E3 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-F1 No. 1, No. 2 DTMF detect time**

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 × × ).

The longer the detect time is, the less the error detection is caused by noises.

**SW-F1 No. 3 Protection of remote reception (5 × ×) detect**

Used to set the function of remote reception (5 × ×). When set to "1", the remote reception function is disabled.

**SW-F1 No. 4 Remote reception with GE telephone**

(Corresponding to TEL made by GE) P. B. X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 × ×) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF. To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

**SW-F1 No. 5 ~ No. 8 Remote operation code figure by external TEL (0 ~ 9)**

Remote operation codes can be changed from 0 through 9. If set to greater than 9, it defaults to 9. The "5 × ×" is not changed.

Ex-7 × × (Default: 5 × ×)

**SW-F2 No. 1 CNG detection in STAND-BY mode**

When setting to "1", the CNG signal detection function during standby stops.

**SW-F2 No. 2, No. 3 Number of CNG detect (AM mode)**

Used for detection of CNG in 1 to 4 pulses.

**SW-F2 No. 4, No. 5 Number of CNG detect (STAND-BY mode)**

Used for detection of CNG in 1 to 4 pulses.

**SW-F2 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-G1 No. 1 ~ No. 4 Quiet detect time**

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically switches to the FAX mode.

**SW-G1 No. 5 ~ No. 8 Quiet detect start timing**

Inserts a pause before commencing quiet detection.

**SW-G2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-G3 No. 1, No. 2 OGM detect timer**

This is used to change the OGM detection time for answering machine hook up detection.

**SW-G3 No. 3, No. 4 Reserved**

Set to "0".

**SW-G3 No. 5, No. 6 Section time of quiet detection**

The switch which sets the time from the start of detection function to the end of the function.

**SW-G3 No. 7 Choice after quiet detect**

"0": The reception begins when no sound is detected in A.M. mode.

"1": The DIS signal is transmitted only once when no sound is detected in A.M. mode.

**SW-G3 No. 8 Reserved**

Set to "0".

**SW-H1 No. 1, No. 2 Busy tone detection ON/OFF time (Lower duration)**

The initial value of detection is set according to electric condition.

The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)

Normally the upper limit is set to 900msec, and the lower limit to 200msec.

If erroneous detection is caused by sound, etc., adjust the detection range.

The lower limit can be set in the range of 350msec to 150msec.

**SW-H1 No. 3, No. 4 Busy tone detection ON/OFF time (Upper duration)**

Similarly to SW-H1 No. 1, the set value can be varied.

The upper limit can be set in the range of 650msec to 2700msec.

SW-H1 No. 1	SW-H1 No. 2	SW-H1 No. 3	SW-H1 No. 4	Detection range
0	0	0	0	150msec ~ 650msec
0	0	0	1	150msec ~ 900msec
0	0	1	0	150msec ~ 1500msec
0	0	1	1	150msec ~ 2700msec
0	1	0	0	200msec ~ 650msec
0	1	0	1	200msec ~ 900msec
0	1	1	0	200msec ~ 1500msec
0	1	1	1	200msec ~ 2700msec
1	0	0	0	250msec ~ 650msec
1	0	0	1	250msec ~ 900msec
1	0	1	0	250msec ~ 1500msec
1	0	1	1	250msec ~ 2700msec
1	1	0	0	350msec ~ 650msec
1	1	0	1	350msec ~ 900msec
1	1	1	0	350msec ~ 1500msec
1	1	1	1	350msec ~ 2700msec

**SW-H1 No. 5 Reserved**

Set to "0".

**SW-H1 No. 6 Busy tone detect continuation sound detect (during ICM: for internal A.M.)**

Used to select detection of the continuous sound of certain frequency.

**SW-H1 No. 7 Reserved**

Set to "0".

**SW-H1 No. 8 Busy tone detect intermittent sound detect (during ICM: for internal A.M.)**

Used to select detection of the intermittent sound of certain frequency.

**SW-H2 No. 1, No. 2 Busy tone detection pulse number**

Used to set detection of Busy tone intermittent sounds.

**SW-H2 No. 3 Fax switching when A.M. full**

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

**SW-H2 No. 4 ~ No. 7 Reserved**

Set to "0".

**SW-H2 No. 8 Busy tone continuous sound detect time**

Set detecting time busy tone continuous sound for 5 or 10 seconds.

**SW-I1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I3 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I4 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I5 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I6 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I7 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-J1 No. 1 Activity report print**

This soft switch is used to select: whether or not to print out the activity report when the memory is full. An activity report can be printed when the following key entry command is made.

"FUNCTION", "2", "#", "START"

After producing the activity report, all the data in the memory will be cleared.

When the switch function is set to "0" (no), the data in the memory will be deleted from the oldest as it reaches the maximum memory capacity.

**SW-J1 No. 2 Total communication hours and pages print**

Used to make a choice of whether the total communication time and pages are recorded in the activity report.

**SW-J1 No. 3 Sender's phone number setting**

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

**SW-J1 No. 4 ~ No. 6 Reserved**

Set to "0".

**SW-J1 No. 7, No. 8 Ringer volume**

Used to adjust ringing volume.

**SW-J2 No. 1, No. 2 Speaker volume (3 stages)**

Used to adjust sound volume from a speaker.

**SW-J2 No. 3 Polling key**

If this switch is set to 1, the last of Rapid key works as polling key.

**SW-J2 No. 4 Reserved**

Set to "1".

**SW-J2 No. 5 ~ No. 8 Reserved**

Set to "0".

**SW-J3 No. 1 Automatic cover sheet**

The machine automatically generates a cover sheet and sends it as the last page of each transmission.

**SW-J3 No. 2 ~ No. 4 Communication result printout (Transaction report)**

Every communication, the result can be output. As usual, it is set to print the timer sending communication error alone. If No. 2: 0 No. 3: 1 No. 4: 0 are set, printing is always on (printed even if it is normally ended).

000: Error, timer and memory sending/receiving

001: Sending

010: Continuous printing

011: Not printed

100: Communication error

**SW-J3 No. 5 ~ No. 8 Reserved**

Set to "0".

**SW-K1 No. 1 Entering DIAG mode by pressing SPEED key**

A bit which is used in the production process only. When the SPEED key is pressed, the switch is changed from the stand-by state to the DIAG mode.

**SW-K1 No. 2 ~ No. 8 Reserved**

Set to "0".

**SW-L1 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW-L1 No. 5 Cut off mode (COPY mode)**

Whether the excessive part is printed on the next recording paper or discarded is selected to copy a document which is longer than the recording paper.

**SW-L1 No. 6 A4 Paper enable**

The use of recording paper of A4 is enabled.

**SW-L1 No. 7 LEGAL and LETTER paper enable**

The use of recording paper of LEGAL and LETTER is enabled.

**SW-L1 No. 8 2 IN 1 mode**

A function to print transmitted data of two pages on one sheet.

**SW-L2 No. 1, No. 2 Paper set size**

At present size of the recording paper.

**SW-L2 No. 3 Automatic reduce of receive**

If set to 1, it is reduced automatically when receiving.

**SW-L2 No. 4 Print contrast**

0: Normal

1: Light

**SW-L2 No. 5 Reception reduction ratio in case of memory full**

This model is designed so that the print is started according to the setting of SW-L2 No.3 when reception of one page is completed. However, if the memory is filled with data before completion of reception of one page, the print is started with the reduction ratio which is set with this switch.

**SW-L2 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-M1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-M2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-N1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-N2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-N3 No. 1 ~ No. 8 Reserved**

Set to "0".

[3] Troubleshooting

Refer to the following actions to troubleshoot any of the problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

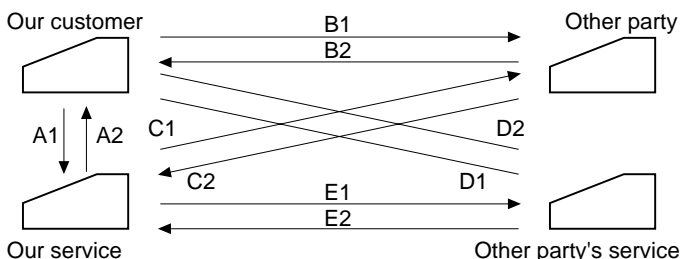
[4] Communication speed slow due to FALLBACK.

- Increase the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5.  
May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [3].

- Apply line equalization SOFT SWITCH A5-1, 2.  
May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A2-1, 2, 3, 4. May be used in case [2] [3].
- Replace the TEL/LIU PWB.  
May be used in all cases.
- Replace the control PWB.  
May be used in all cases.

\* If transmission problems still exist on the machine, use the following format and check the related matters.

TO:	ATT:	Ref.No. :
CC:	ATT:	Date :
FM:		Dept :
		Sign :

***** Facsimile communication problem *****		Ref.No.:																				
From: Mr.	Fax Tel No.:	Date:																				
Our customer	Name	Tel No.																				
	Address	Fax No.																				
	Contact person	Model name																				
Other party	Name	Tel No.																				
	Address	Fax No.																				
	Contact person	Model name																				
Problem mode	Line: Domestic / international	Model: G3																				
	Reception / Transmission	Phase: A, B, C, D.																				
	Automatic reception / Manual reception																					
	Automatic dialing / Manual dialing / Others																					
Frequency:	%	ROM version:																				
Confirmation item																						
	Please mark problem with an X. No problem is: 0.																					
	<table><tr><td>A1</td><td>A2</td><td>B1</td><td>B2</td><td>C1</td><td>C2</td><td>D1</td><td>D2</td><td>E1</td><td>E2</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		A1	A2	B1	B2	C1	C2	D1	D2	E1	E2										
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2												
Transmission level setting is ( ) dB at our customer																						
Transmission level ( ) dBm Reception level ( ) dBm By level meter at B1 and B2																						
Comment																						
Countermeasure																						
**** Please attach the G3 data and activity report on problem. ****																						

\* Please complete this report before calling the “TAC” hotline if problem still occurs.

## [4] Error code table

### 1. Communication error code table

#### G3 Transmission

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSF, DIS	Cannot recognize DCS signal by echo etc. Cannot recognize NSS signal (FIF code etc)
2	CFR	Disconnects line during reception (carrier missing etc)
3	FTT	Disconnects line by fall back
4	MCF	Disconnects line during reception of multi page Cannot recognize NSS, DCS signal in the case of mode change
5	PIP or PIN	The line is hung up without replying to telephone request from the receiving party.
6	RTN or RTP	Cannot recognize NSS, DCS signal after transmit RTN or RTP signal.
7	No signal or DCN	No response in receiver side or DCN signal received* (transmitter side)
8	–	Owing to error in some page the error could not be corrected although the specified number of error retransmissions were attempted.
11	–	Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible.
12	–	Error occurred just after fallback.
13	–	Error occurred after a response to retransmission end command was received.

#### G3 Reception

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal Disconnects line during transmission (line error)
2	NSC, DTC	Cannot recognize NSS signal (FIF code etc)
3	EOP	Cannot recognize MCF, PIP, PIN, RTN, RTP signal
4	EOM	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change
5	MPS	The line is hung up without replying to communication request.
6	PR1-Q	Cannot recognize PIP, PIN signal in the case of TALK request
7	No signal or DCN	No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side)
8	–	Error occurred upon completion of reception of all pages.
9	–	Error occurred when mode was changed or Transmission/Reception switching was performed.
10	–	Error occurred during partial page or physical page reception.
11	–	Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not.
12	–	Error occurred during or just after fallback.
13	–	Error occurred after the retransmission end command was received.

MEMO



## CHAPTER 3. MECHANISM BLOCKS

### [1] General description

#### 1. Document feed block and diagram

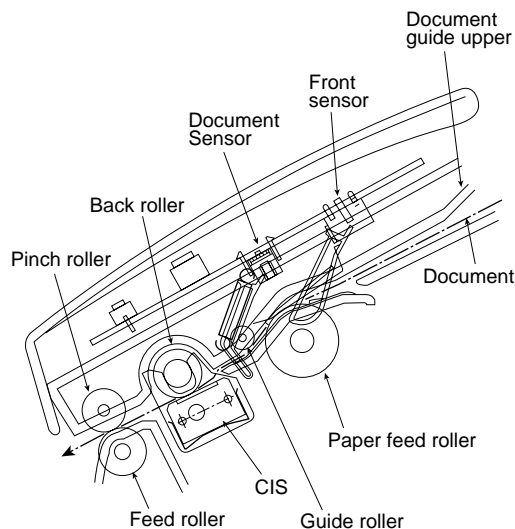


Fig. 1

#### 2. Document feed operation

- 1) The original, which is set in the document hopper, feeds automatically when the front sensor is activated. This in turn activates the pulse motor which drives the document supply roller. The document stops when the lead edge is detected by the document sensor.
- 2) The lead edge of the original is fed a specified number of pulses after the lead edge of the document is detected for the reading process to begin.
- 3) The trailing edge of the original is fed a specific number of pulses after the trailing edge of the document deactivates the document sensor. The read process then stops and the original is discharged.
- 4) When the front sensor is in the OFF state (any document is not set up in the hopper guide), the drive will be stopped when the document is discharged.

#### 3. Hopper mechanism

##### 3-1. General view

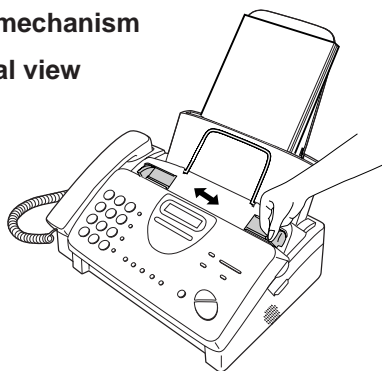


Fig. 2

The hopper section contains document guides that are used to adjust the hopper to the width of the original document. This ensures that the original feeds straight into the fax machine for scanning.  
Document width: 148 mm to 216 mm (A5 longitudinal size to Letter longitudinal size)

NOTE: Adjust the document guide after setting up the document.

#### 3-2. Automatic document feed

- 1) Use of the paper feed roller and separation rubber plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
- 2) Document separation method: Separation rubber plate

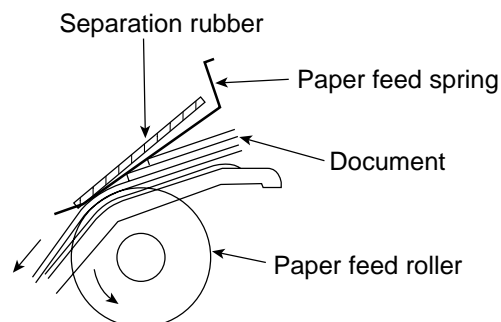


Fig. 3

#### 3-3. Documents applicable for automatic feed

	4x6 series (788mm x 1091mm x 1000 sheets)		Square meter series	
	Minimum	Maximum	Minimum	Maximum
Feeder capacity	10 sheets, max.			
Paper weight	45kg	64.3kg	52g/m <sup>2</sup>	74.3g/m <sup>2</sup>
Paper thickness (ref.)	0.06mm	0.09mm	0.06mm	0.09mm
Paper size	148mm x 140mm ~ A4 (210mm x 297mm), Letter (216mm x 279mm)			

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 64.3kg (74.3g/m<sup>2</sup>) and lighter than 135kg (157g/m<sup>2</sup>) are acceptable for manual feed.

Documents heavier than 135kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

#### 3-4. Loading the documents

- 1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
- 2) Place documents face down in the hopper.
  - i) Adjust the document guides to the document size.
  - ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straightened out.

- 2) Do not load the documents of different sizes and/or thicknesses together.

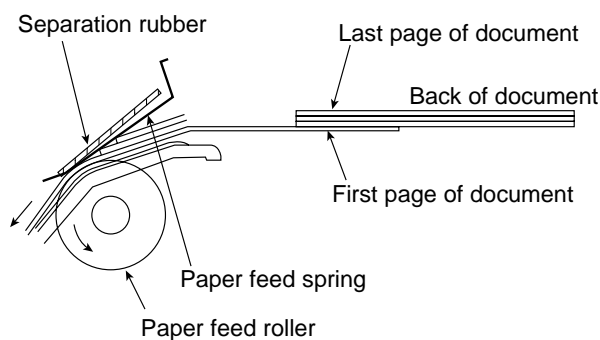


Fig. 4

### 3-5. Documents requiring use of document carrier

- 1) Documents smaller than B6 148mm (W) x 140mm (L).
- 2) Documents thinner than the thickness of 0.06mm.
- 3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
- 4) Documents containing tears.
- 5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
- 6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
- 7) Transparent documents.
- 8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

## 4. Document release

### 4-1. General

To correct a jammed document or to clean the document running surface, pull the insertion side of document center of the operation panel. To open the upper document guide, the operation panel must be opened first.

### 4-2. Cross section view

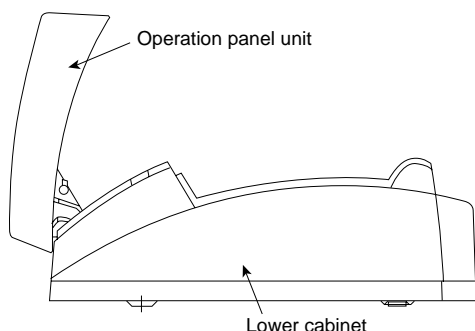


Fig. 5

## 5. Recording block

### (1) General view

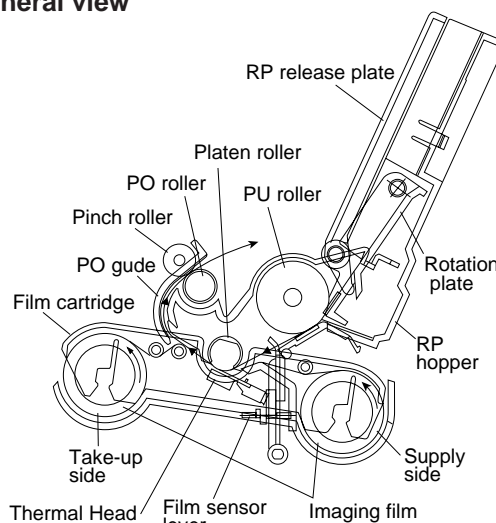


Fig. 6

### 5-1. Driving

In the drive mechanism, the rotating force of the pulse motor for both transmission and reception is transmitted to the paper supply roller, the recording paper feed roller and imaging film drive gear through the pulse motor axle gear, reduction gear and planetary gear.

### 5-2. Recording

This equipment employs the thermal transcription system which used the thermal head imaging film.

#### 1) Thermal head

The thermal head is composed of 2,016 heating elements in traverse line, and the resolution power is 8 dots/mm. The maximum speed is 10 ms/line.

#### 2) Structure of recording mechanism

Recording is achieved by applying a suitable pressure to the thermal head through the imaging film of the recording paper feed roller and the recording paper.

The main scanning is electronically done, and the sub-scanning is mechanically done (by sending the recording paper with the recording paper feed roller).

#### 3) Recording paper transfer sequence

- a) The recording paper stored in the RP hopper is fed with the PU roller, and the recording paper is stopped when the P-IN sensor is turned on by sensing its lead edge.
- b) Hereafter, the imaging film and recording paper are transferred with the recording paper feed roller, and thermal transcription is done on the recording paper.
- c) After thermal transcription, the imaging film is taken up by the roller on the take-up side, and the recording paper is discharged by the PO roller.

As basic, the density unevenness mainly results from the longitudinal misalignment of the thermal head to the heater line. Otherwise, the head is in uneven contact with the recording paper feed roller, or the imaging film is wrinkled.

The following items are described as the simplified checking method.

- ① Are the power and signal cables of the thermal head suitably treated?
- ② Does the same symptom appear even if the thermal head pressure spring is replaced?
- ③ Is the feed roller of the recording paper concentric? (Density is uneven at intervals.)
- ④ Does the same symptom appear even if the thermal head is replaced?
- ⑤ Is the imaging film stained or wrinkled?

[2] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.

1

Bottom plate

Parts list (Fig. 1)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	5	CIS earth cable	1
2	Screw (3×10)	9	6	Roller earth cable	1
3	Screw (3×6)	1	7	Screw (3×5)	1
4	Head earth cable	1	8	Bottom plate	1

Fig. 1

2

PWB's, drive unit, AC cord ass'y and speaker

Parts list (Fig. 2)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	7	Screw (4×6)	1
2	Connector	2	8	AC cord ass'y	1
3	Cable	6	9	Screw (3×10)	2
4	Control PWB unit	1	10	Drive unit	1
5	TEL/LIU PWB unit	1	11	Speaker hold spring	1
6	Power supply PWB unit	1	12	Speaker	1

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AC cord earth cable

AC cord earth cable

AC cord earth cable

Control PWB (Top view)

Rib

Note) Keep the power supply PWB unit to under the rib like the picture.

Position of AC cord

The number direction keep on top side

Fig. 2

3 – 4

3

## Paper roller etc. and sensor lever

Parts list (Fig. 3)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	7	Platen lock lever, left	1
2	Sheet A	1	8	Platen lock lever, right	1
3	P-IN sensor lever B	1	9	Platen lock lever spring	1
4	Screw (3×10)	1	10	PO roller	1
5	BT gear ass'y	1	11	Transfer bearing	2
6	Platen lock bracket	1	12	Back roller gear	1

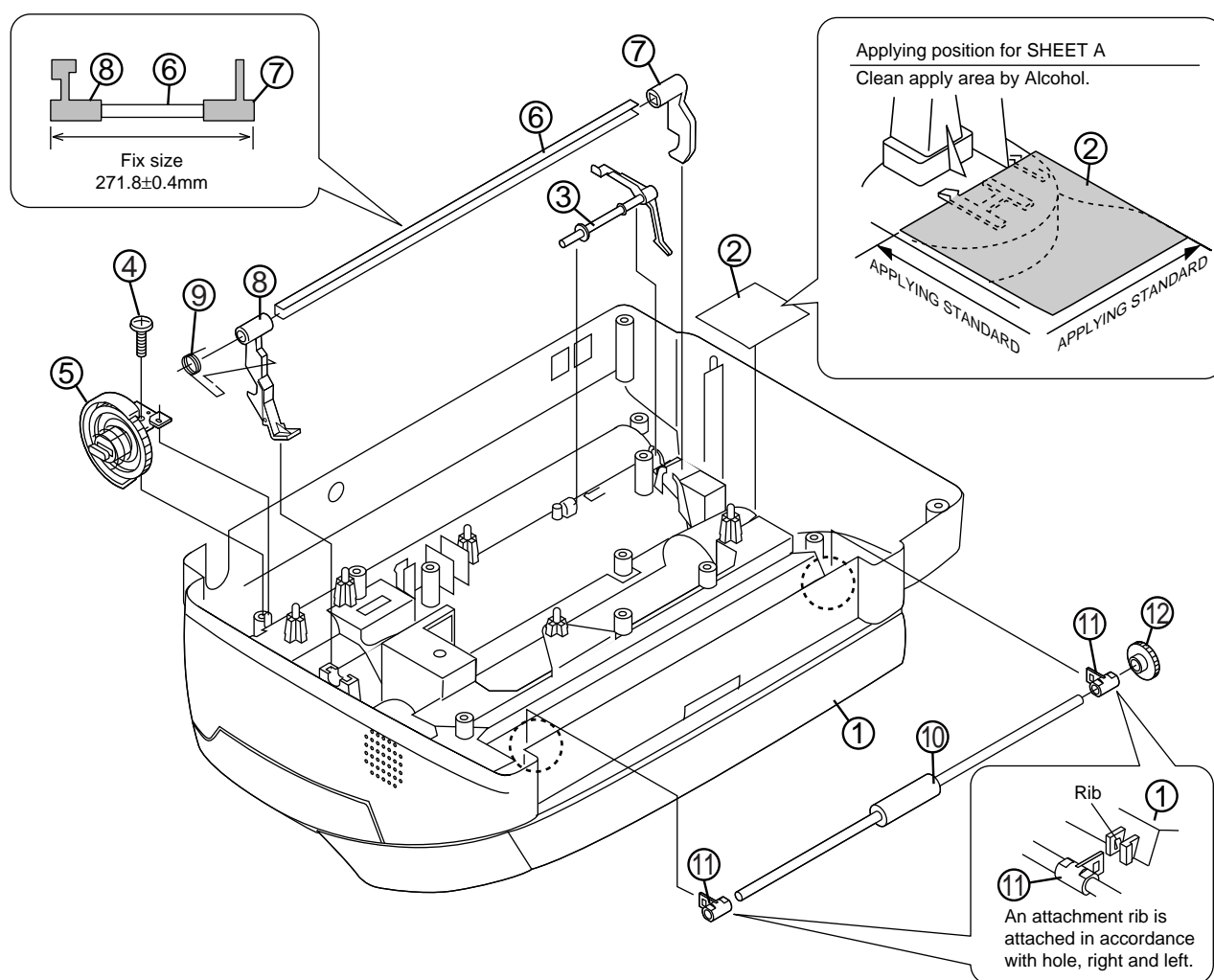
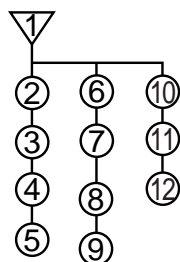


Fig. 3

4 Drive frame

Parts list (Fig. 4)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×10)	2	9	Idler gear, 52Z	1	17	Reduction gear, 4	1
2	Motor	1	10	Reduction gear, 3	1	18	Planet gear lever C ass'y	1
3	Motor plate	1	11	Reduction gear, 2	1	19	Planet gear lever B ass'y	1
4	Take up gear	1	12	Reduction gear, 5	1	20	Reduction gear, 1	1
5	Slip gear ass'y	1	13	Reduction gear C	1	21	Cam hold spring	1
6	Reduction gear, 6	1	14	Link lever	1	22	Cam A	1
7	Planet gear lever D ass'y	1	15	Planet gear lever A ass'y	1	23	Cam B	1
8	Idler gear B	1	16	Idler gear, 30Z	3	24	Cam switch	1
						25	Drive frame	1

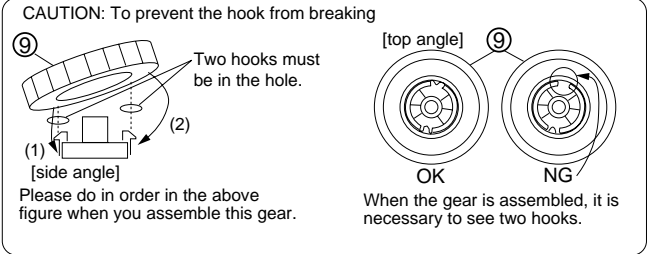
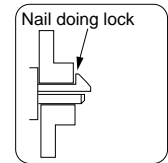
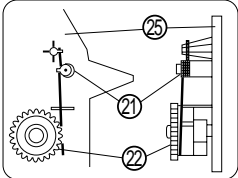
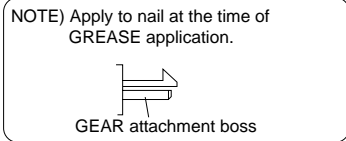
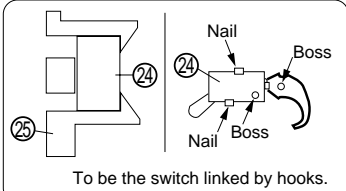
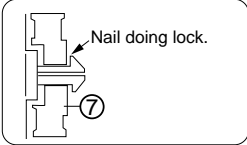
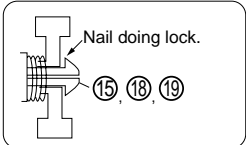
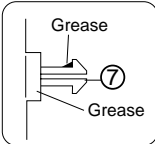
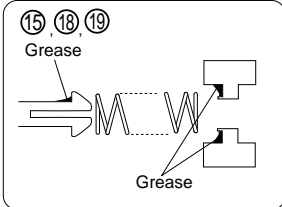
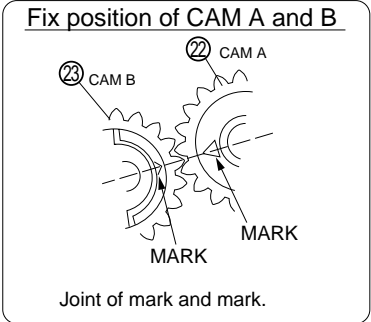
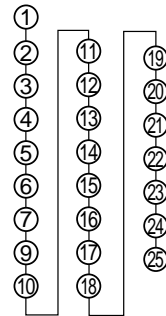


Fig. 4

5

# Sub frame unit, original paper guide, operation panel unit and CIS unit

Parts list (Fig. 5)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	8	CIS unit	1
2	Hook switch lever	1	9	CIS earth sheet	1
3	Sub frame unit	1	10	CIS spring	2
4	Screw (3×10)	2	11	Cover switch spring	1
5	Original paper guide unit	1	12	Cover switch lever	1
6	Operation panel unit	1	13	Feed roller shaft	1
7	Film guide shaft	1	14	Feed roller	1
			15	Original paper guide	1

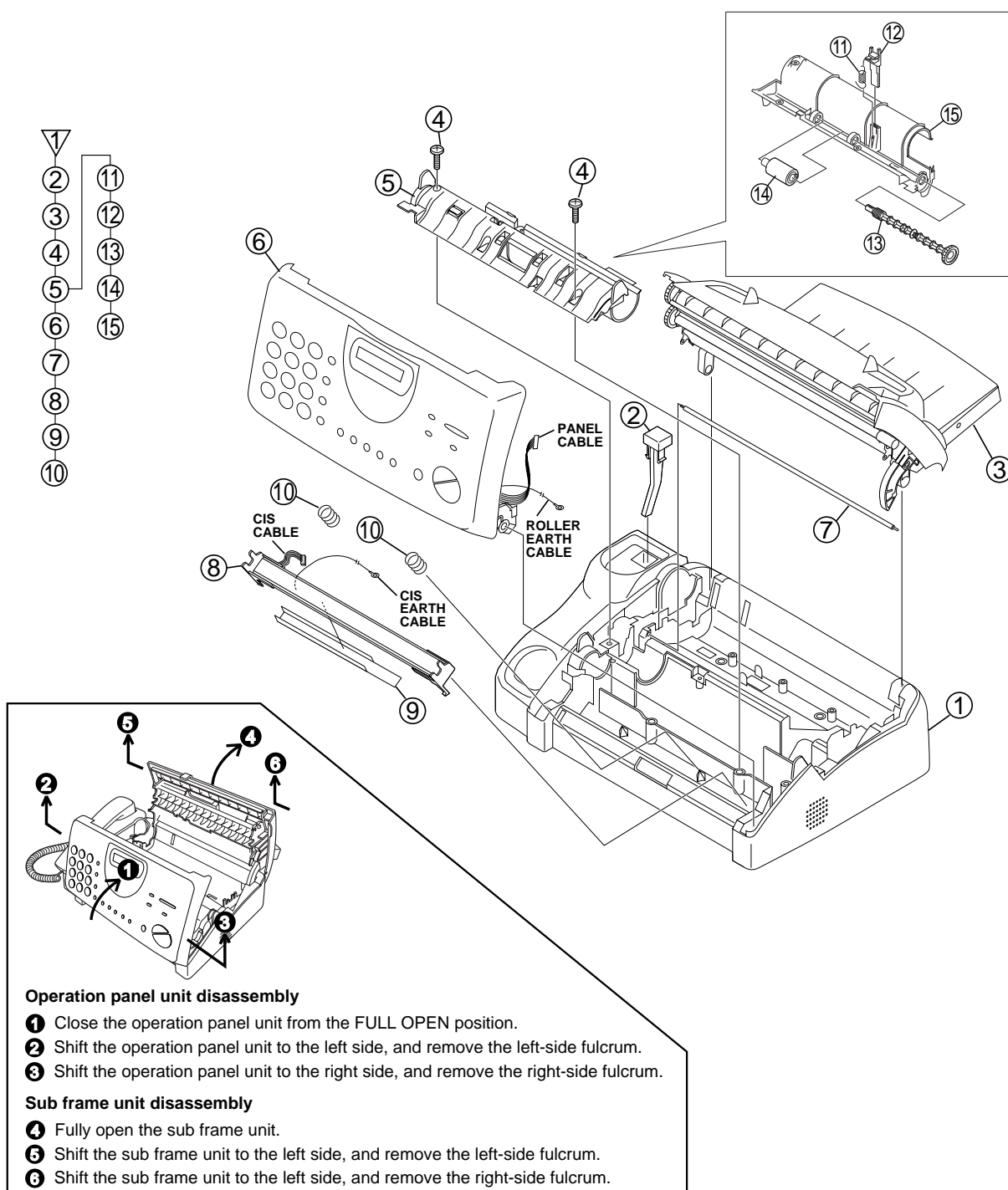


Fig. 5



6

Upper cabinet and document guide upper unit

Parts list (Fig. 6)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×8)	2	7	Operation panel PWB	1
2	Document guide upper unit	1	8	Direct key	1
			9	Mode key	1
3	Operation panel unit	1	10	Stop key	1
4	Screw (2×6)	5	11	Start key	1
5	Cable	1	12	12 key	1
6	Insulation sheet	1	13	Upper cabinet	1

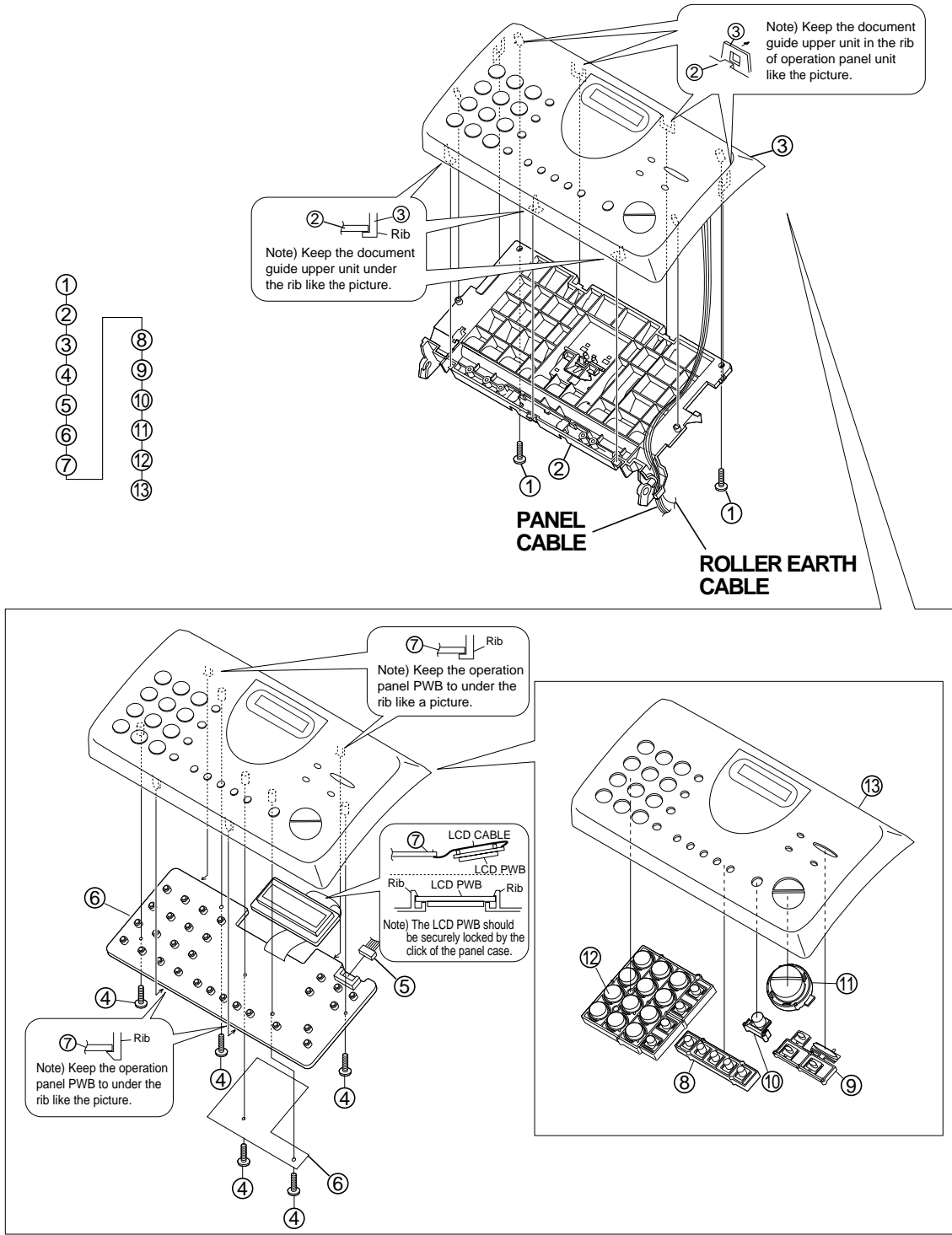


Fig. 6

7

Document guide upper

Parts list (Fig. 7)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Back roller gear	1	8	Pinch roller shaft	1
2	Transfer bearing	1	9	Separate spring	1
3	Roller earth plate	1	10	Separator plate	1
4	Earth gum	1	11	Paper feed spring	1
5	Back roller	1	12	Separator rubber	1
6	Pinch roller spring	2	13	Guide roller	1
7	Pinch roller	2	14	Document guide upper	1

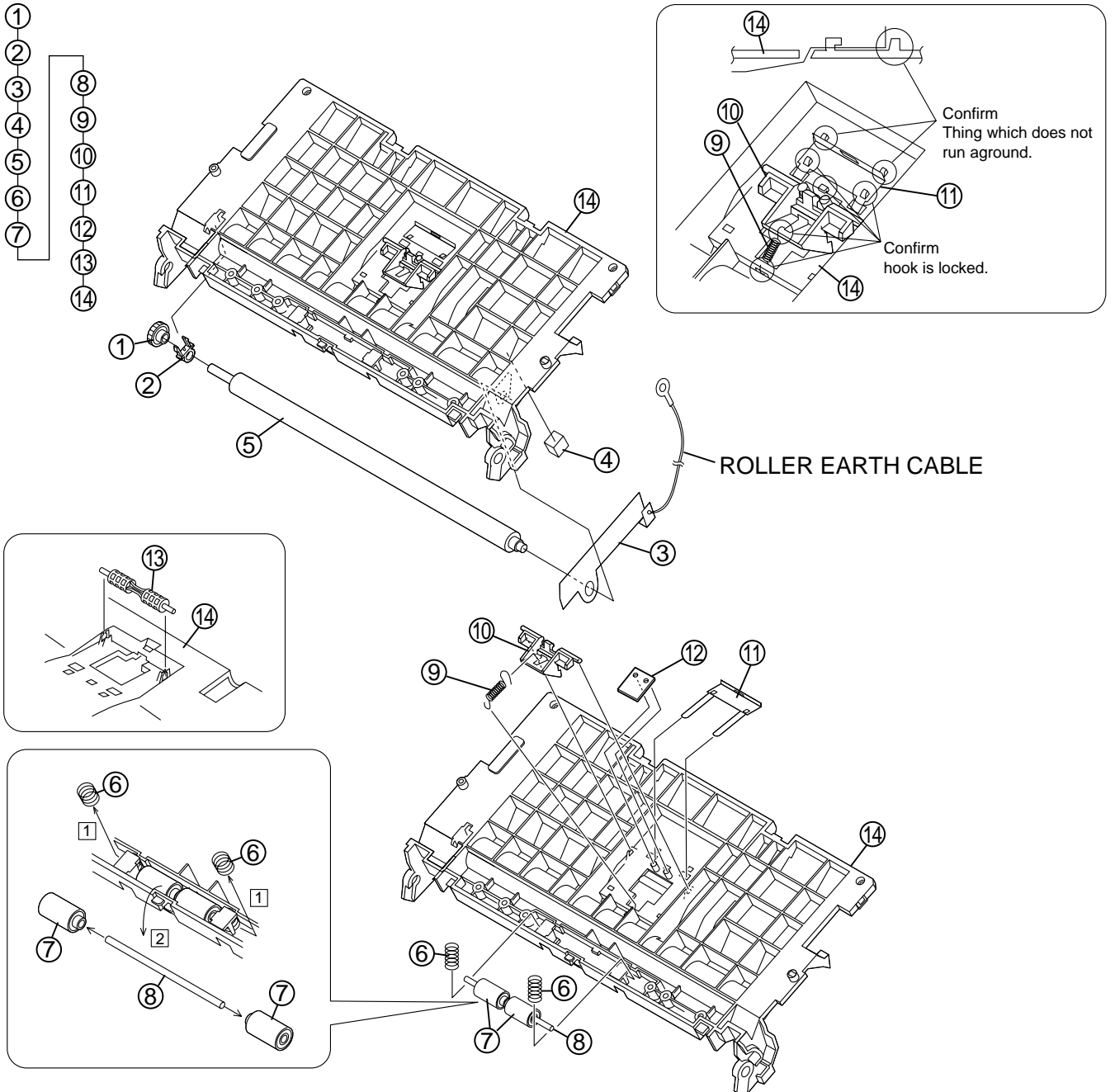


Fig. 7

Sub frame, top cover unit RP hopper unit

Parts list (Fig. 8)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Top cover unit	1	10	PO guide ass'y	1	19	Platen bearing, right	1
2	Screw (3×10)	2	11	PO pinch roller spring	2	20	Platen roller	1
3	Sub frame unit	1	12	PO pinch roller	2	21	PU shaft	1
4	Screw (3×10)	2	13	PO guide	1	22	PU roller ass'y	1
5	RP hopper unit	1	14	PO gear	1	23	P-IN sensor lever spring	1
6	Sub frame ass'y	1	15	PO roller ass'y	1	24	P-IN sensor lever	1
7	Screw (3×10)	1	16	Film guide shaft	1	25	Sub frame	1
8	Tension gear	1	17	Platen gear	1	26	PO roller rubber	2
9	Tension spring	1	18	Platen bearing, left	1	27	PO roller shaft	1

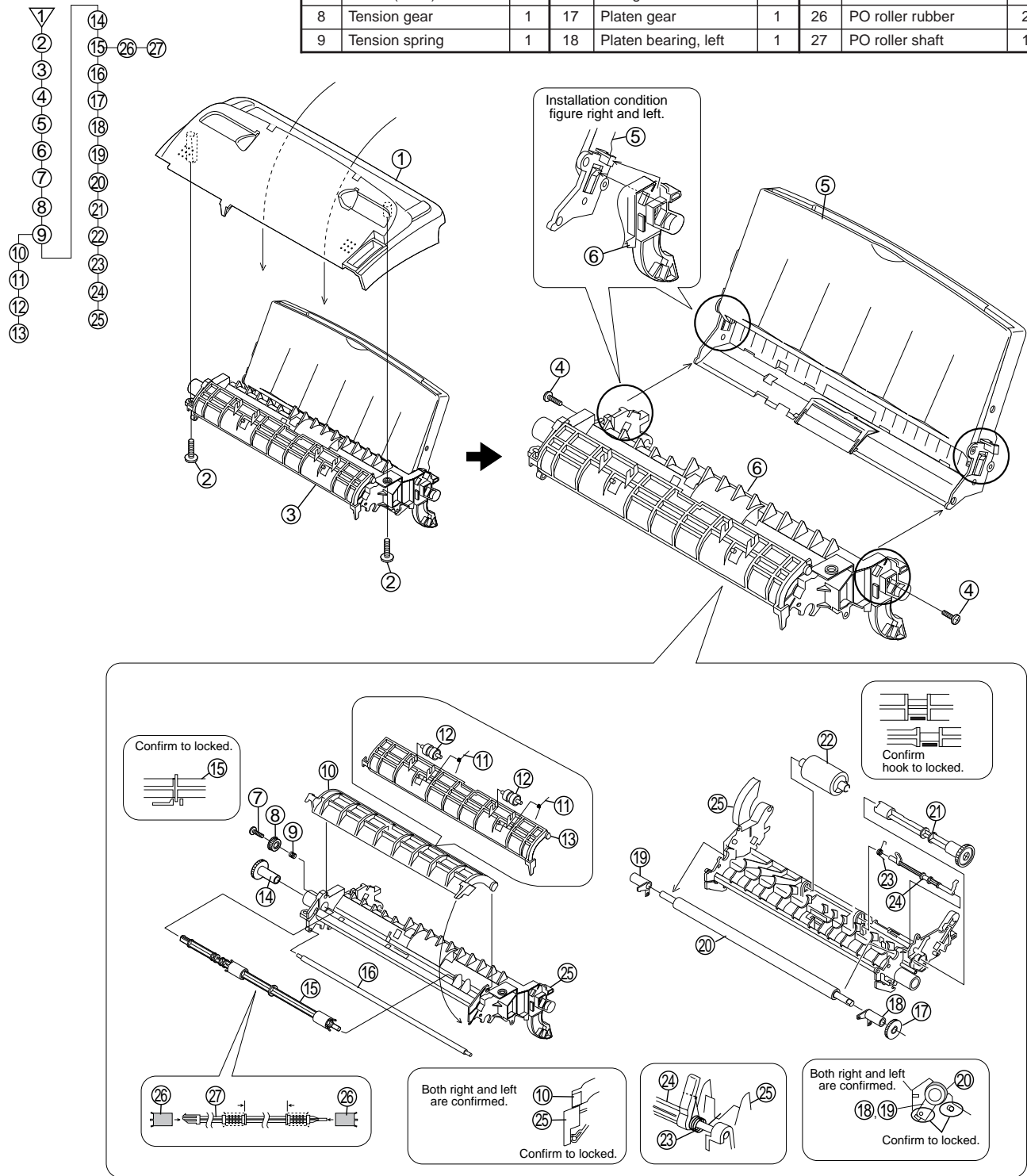


Fig. 8

## 9

## Top cover and RP hopper

Parts list (Fig. 9)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Release knob	1	9	RP release plate	1
2	Screw	1	10	Rotation plate	1
3	Pinion gear	1	11	RP pad	1
4	Hopper spring	1	12	C-spring	1
5	Hopper guide, right	1	13	Separate plate	1
6	Hopper guide, left	1	14	Separate plate sheet	1
7	TC sheet	1	15	Separate spring	1
8	Top cover	1	16	A4 paper guide	1
			17	RP hopper	1

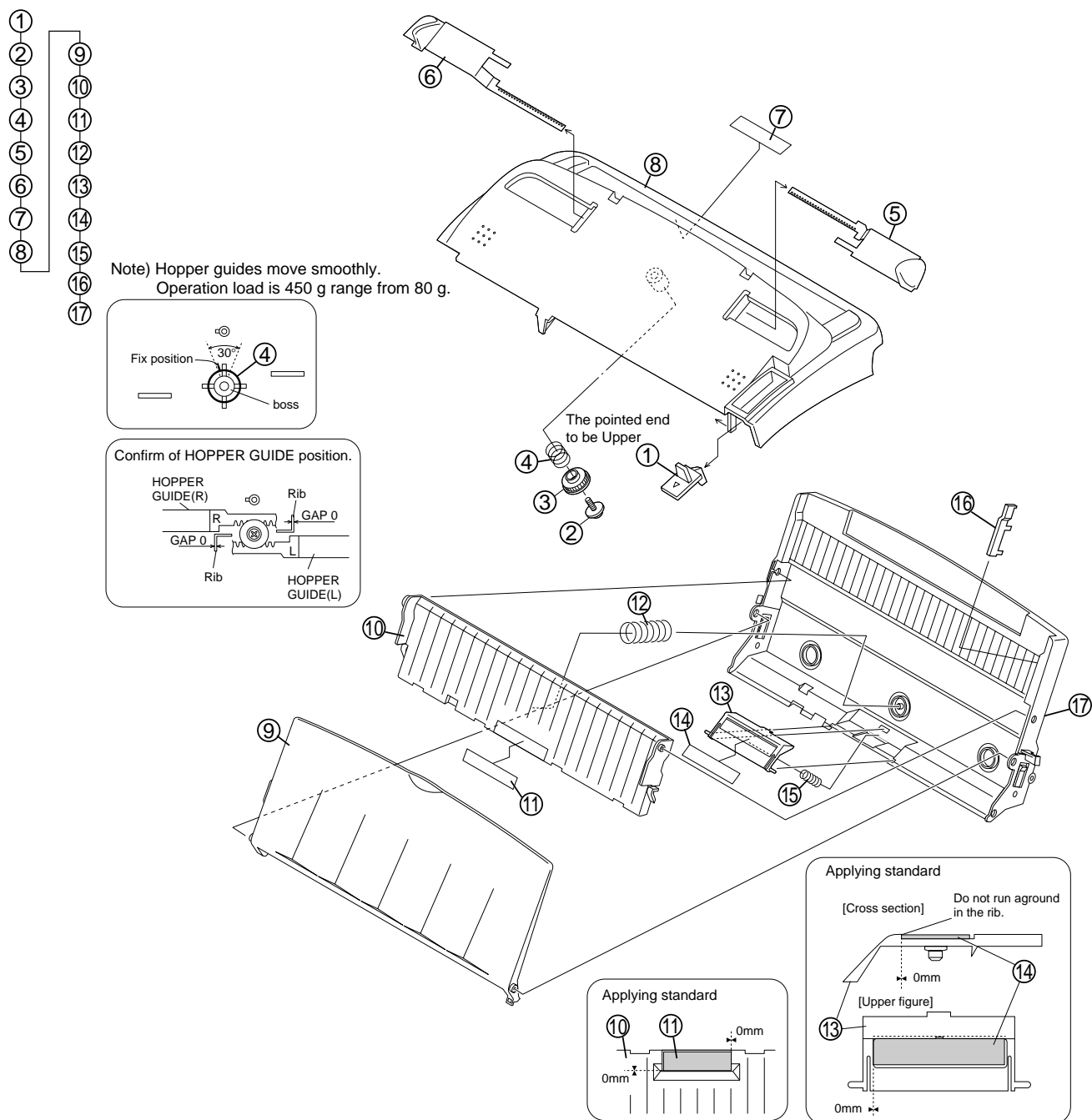


Fig. 9

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Thermal head

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View A

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7

Rib

Install the spring on the ditch of the rib.

The head and head earth cable pass to the core 2 times.

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View A

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Tightening torque  
6.0±0.5kg.cm

Put the earth cable in parallel to the head frame.

Parts list (Fig. 10)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	12	Thermal head ass'y	1
2	Screw (3×10)	1	13	Head spring C	2
3	Head cover	1	14	Head spring E	2
4	Screw (3×10)	2	15	Head spring F	1
5	Head earth cable	1	16	Head cushion	2
6	Head unit	1	17	Head frame	1
7	Film sensor lever spring	1	18	Head cable	1
8	Film sensor lever	1	19	Screw (3×6)	1
9	Screw (3×10)	2	20	Head guide, right	1
10	Panel lock lever spring	2	21	Screw (3×6)	1
11	Head spring D	2	22	Head guide, left	1
			23	Thermal head	1

Fig. 10

3 – 12

## 11

## Wire treatment

Parts list (Fig. 11)

No.	Part name	Q'ty
1	Screw (3×10)	1
2	Screw (4×6)	1
3	Core (F2125)	1
4	Screw (3×6)	1

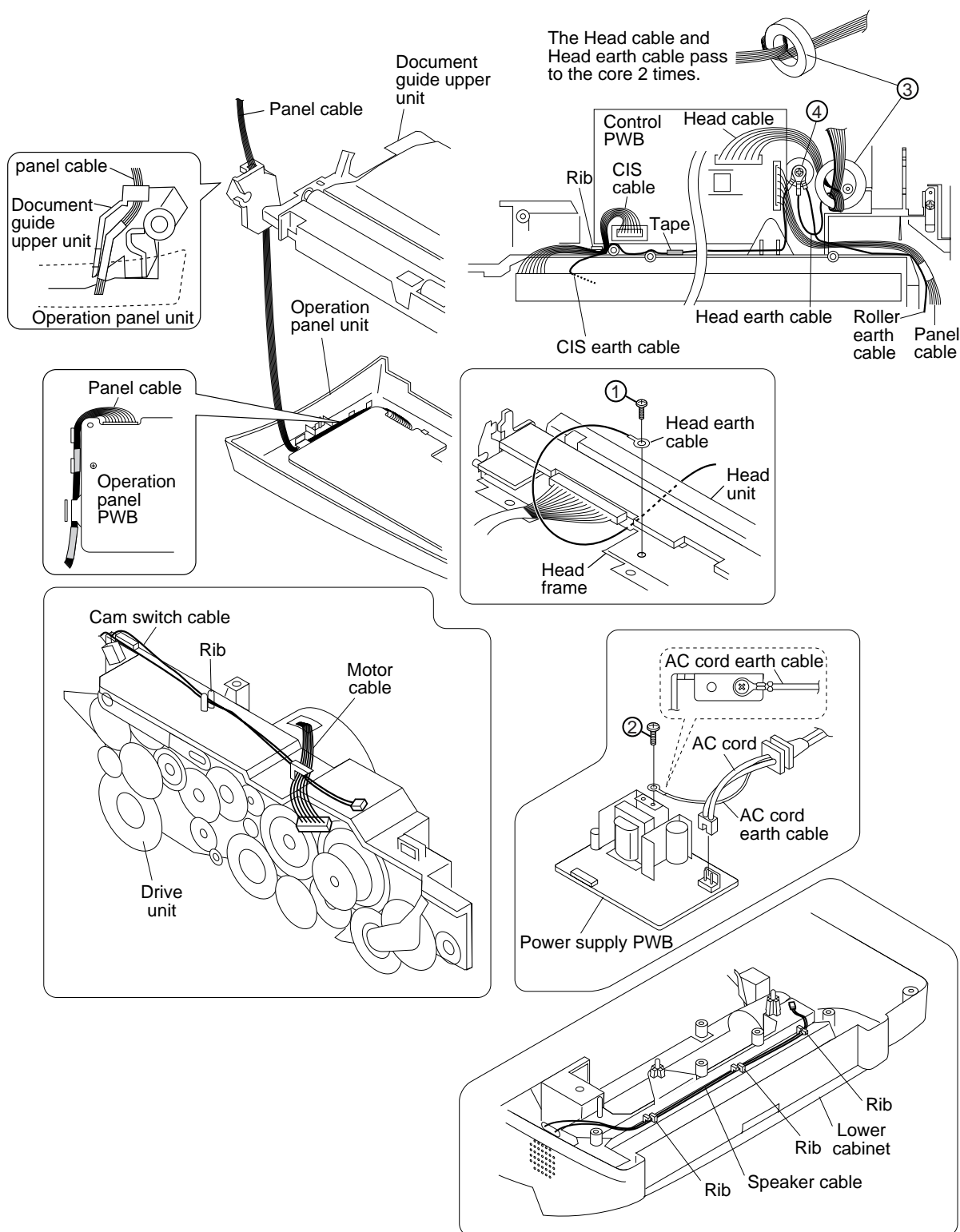
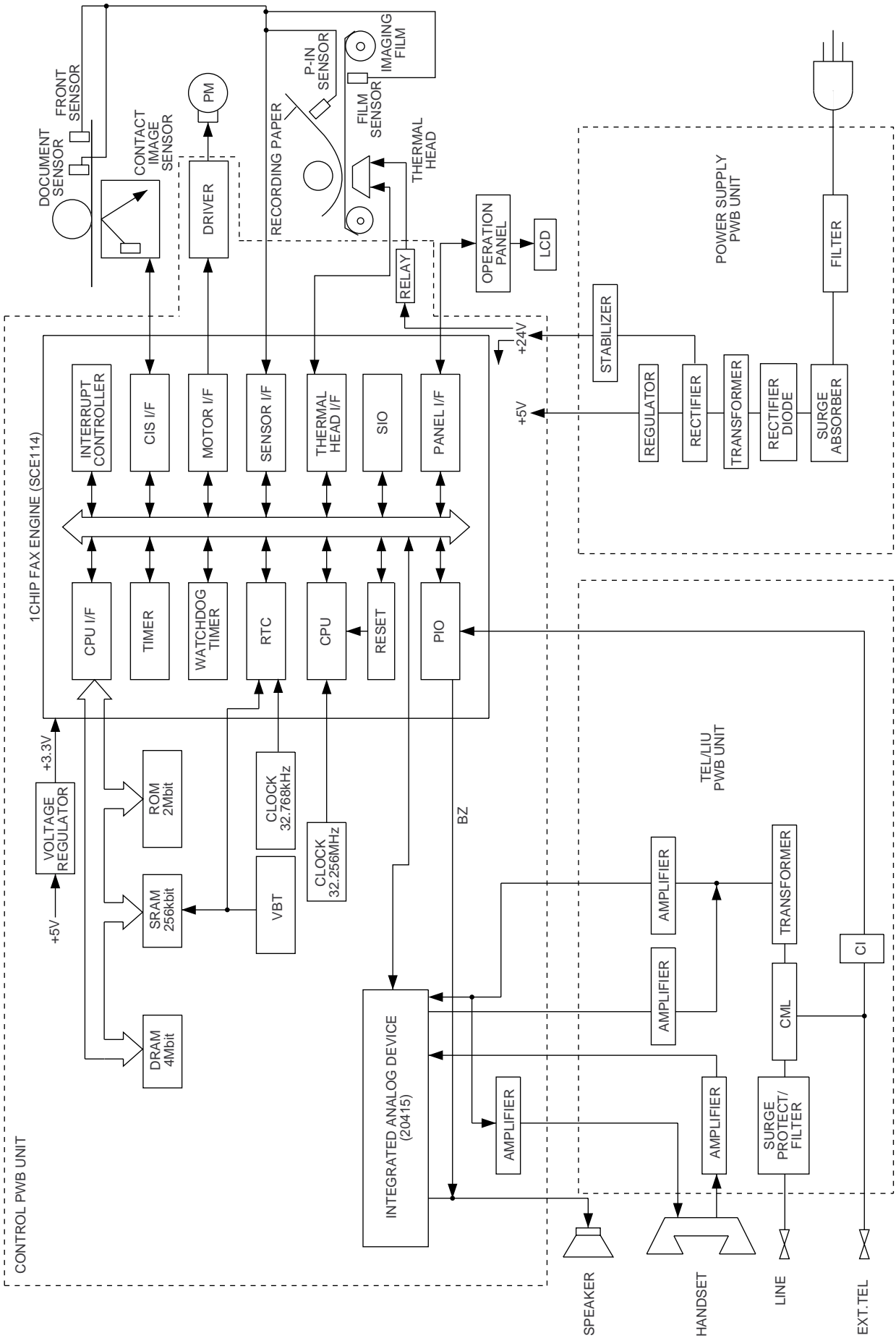


Fig. 11

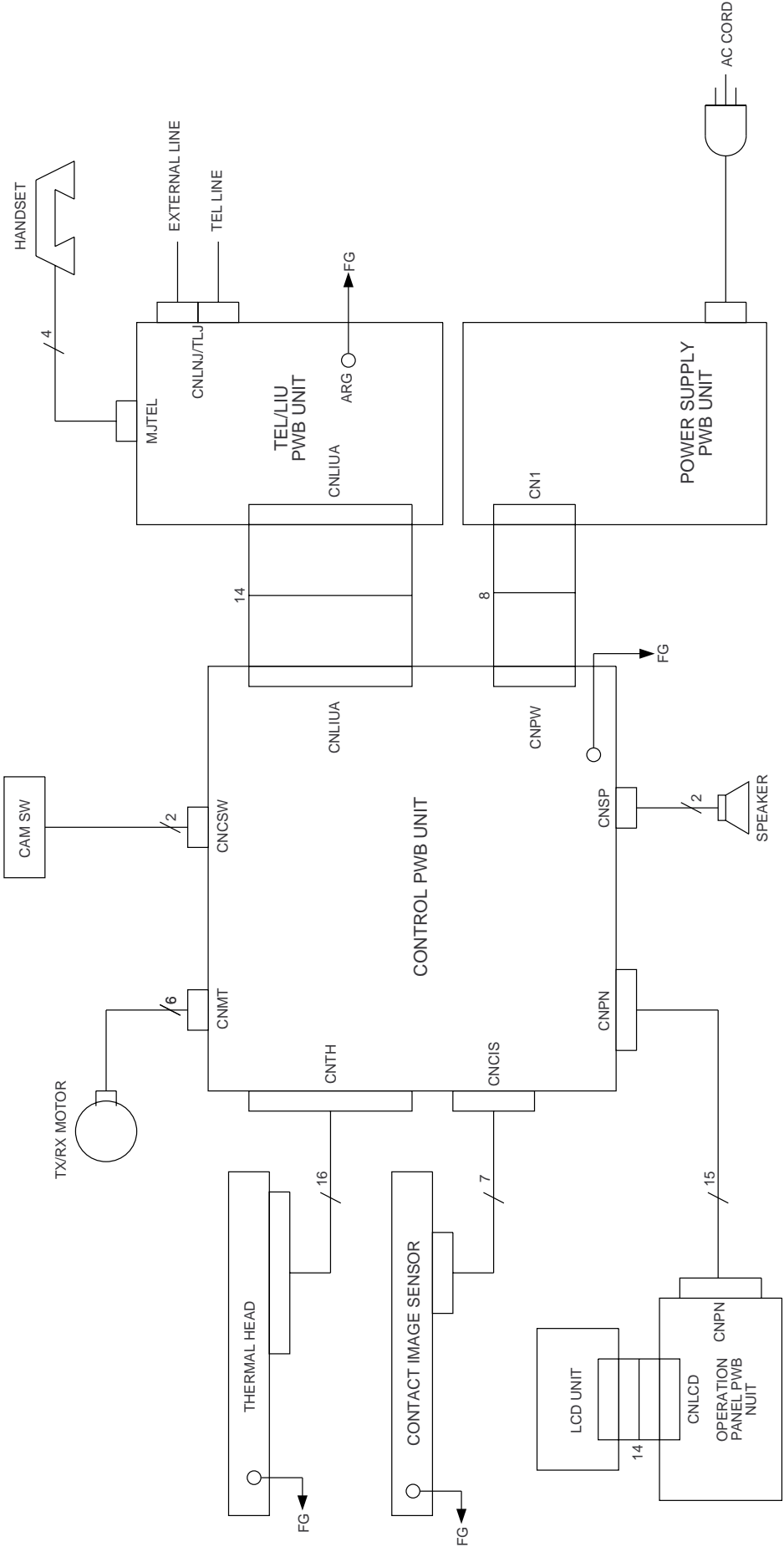
CHAPTER 4. DIAGRAMS

[1] Block diagram

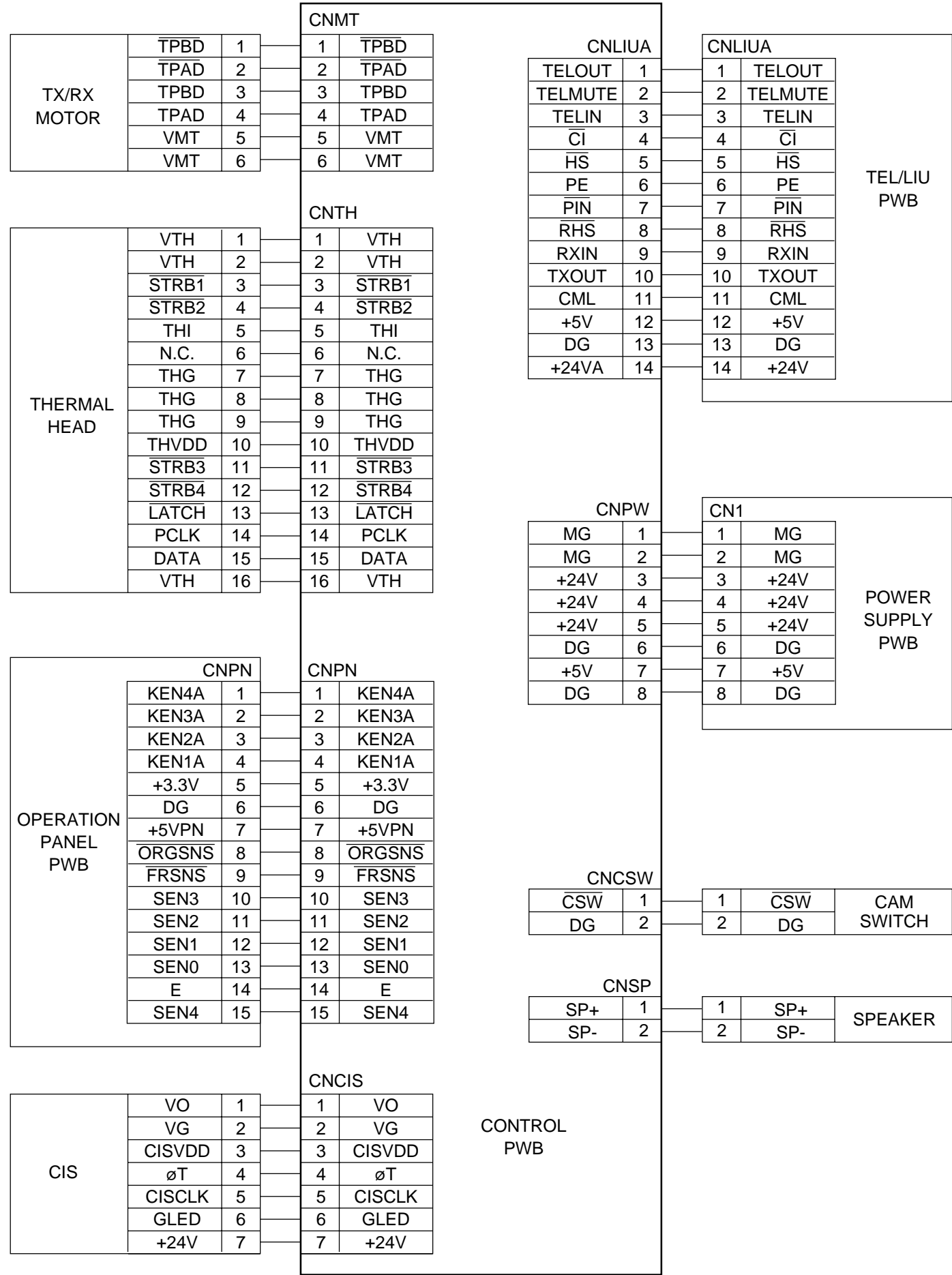




[2] Wiring diagram



[3] Point-to-point diagram



## CHAPTER 5. CIRCUIT DESCRIPTION

### [1] Circuit description

#### 1. General description

The compact design of the control PWB is obtained by using CONEXANT fax engine in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

#### 2. PWB configuration

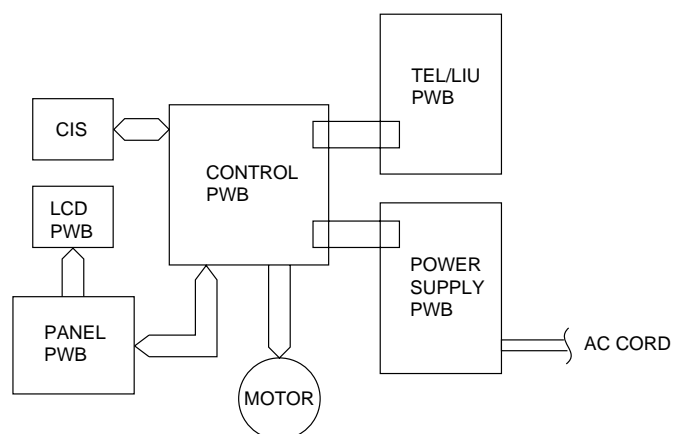


Fig. 1

#### 1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit. This machine employs a 1-chip modem (SCE114) which is in-stalled on the control PWB.

#### 2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

#### 3) Power supply PWB

This PWB provides voltages of +5V and +24V to the other PWBs.

#### 4) Panel PWB

The panel PWB allows input of the operation keys.

#### 5) LCD PWB

This PWB controls the LCD display.

### 3. Operational description

Operational descriptions are given below:

- Transmission operation

When a document is loaded in standby mode, the state of the document sensor is sensed via the 1 chip fax engine (SCE114). If the sensor signal was on, the motor is started to bring the document into the standby position. With depression of the START key in the off-hook state, transmission takes place.

Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CIS is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then converted from parallel to serial form by the modem where the serial data is modulated and sent onto the line.

- Receive operation

There are two ways of starting reception, manual and automatic. Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.

First, the SCE114 controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 chip fax engine (SCE114) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the SCE114 which is then converted from parallel to serial form to be sent to the thermal head. The data is printed line by line by the SCE114 which is assigned to control the motor rotation and strobe signal.

- Copy operation

To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state.

First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CIS is converted to a binary signal in the DMA mode via the 1 chip fax engine (SCE114) which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor in the DMA mode to send the image data to the thermal head which is printed line by line. The copying takes place as the operation is repeated.

[2] Circuit description of control PWB

1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 5 blocks.

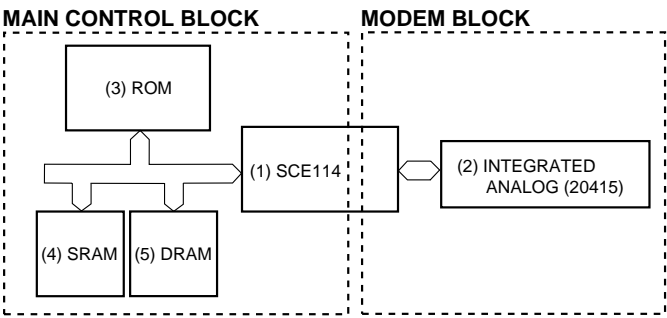


Fig. 2 Control PWB functional block diagram

2. Description of each block

(1) Main control block

The main control block is composed of CONEXANT 1 chip fax engine (SCE114), ROM (2Mbit), SRAM (256Kbit), DRAM (4Mbit) and Integrated Analog (20415).

Devices are connected to the bus to control the whole unit.

1) SCE114 (IC10) : pin-176 QFP (FAX CONTROLLER)

2) 20415 (IC11) : pin-32 QFP (INTEGRATED ANALOG)

The FAX ENGINE Integrated Facsimile Controllers.

SCE114, contains an internal 8 bit microprocessor with an external 2 Mbyte address space and dedicated circuitry optimized for facsimile image processing and facsimile machine control and monitoring.

3) 27L2000 (IC7): pin-32 DIP (ROM)

ROM of 2Mbit equipped with software for the main CPU.

4) W24258S-70LE (IC2): pin-28 SOP (SRAM)

Line memory for the main CPU system RAM area and coding/decoding process. Used as the transmission buffer.

Memory of recorded data such as daily report and auto dials. When the power is turned off, this memory is backed up by the lithium battery.

5) MSM51V4800E (IC3): pin-28 SOJ (DRAM)

Image memory for recording process.

- Memory for recording pixel data without paper.

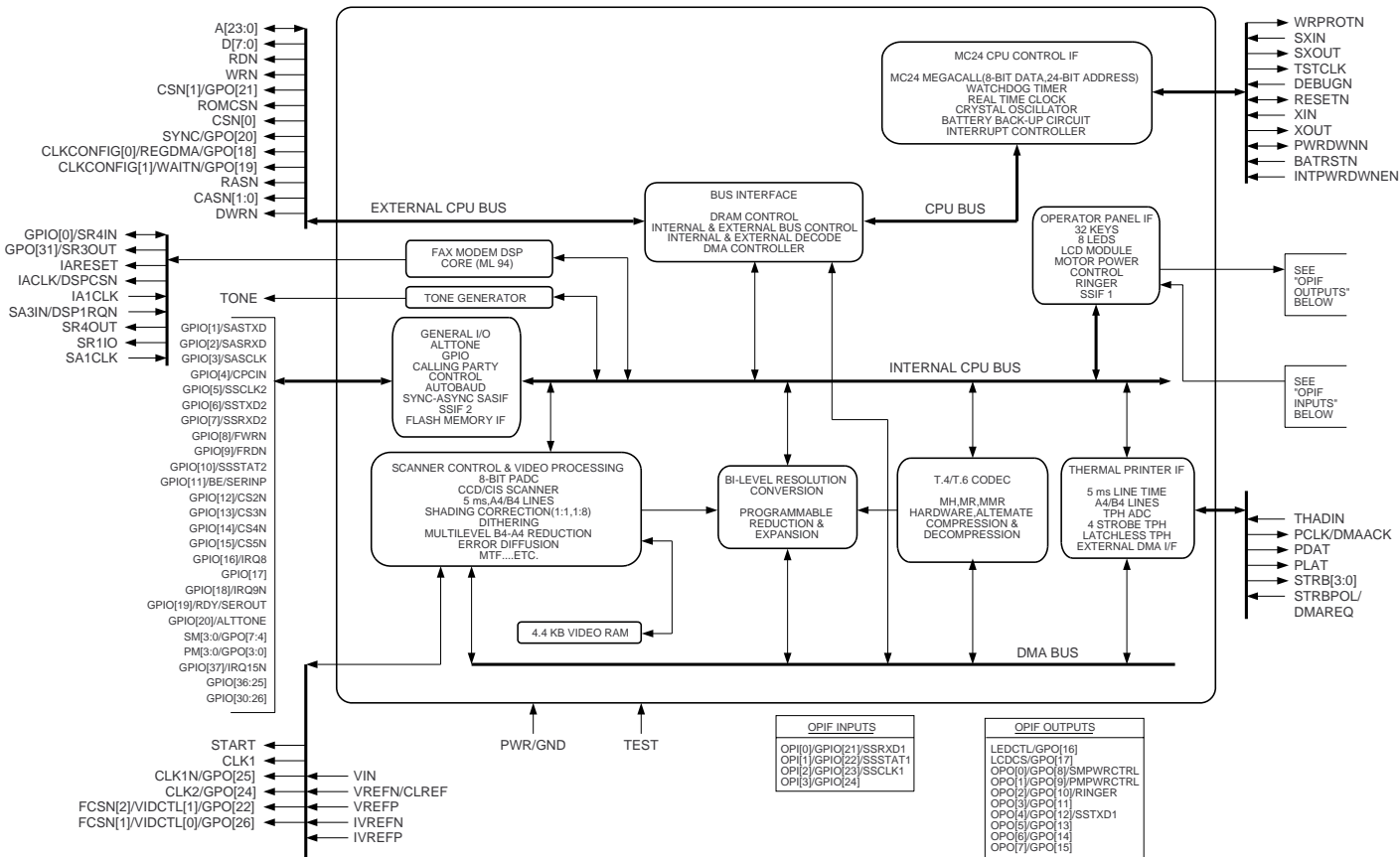


Fig. 3

**SCE114 (IC10) Terminal descriptions**

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
1	VSS	–	–	–	Digital ground.
2	D[3]	I/O	Tu	13Xs	CPU data bus.
3	D[2]	I/O	Tu	13Xs	CPU data bus.
4	D[1]	I/O	Tu	13Xs	CPU data bus.
5	D[0]	I/O	Tu	13Xs	CPU data bus.
6	A[23]/EYEXY	I/O	Tu	13Xs	CPU address bus.
7	A[22]/EYESYNC	I/O	Tu	13Xs	CPU address bus.
8	A[21]/EYECLK	I/O	Tu	13Xs	CPU address bus.
9	A[20]	I/O	Tu	13Xs	CPU address bus.
10	A[19]	I/O	Tu	13Xs	CPU address bus.
11	A[18]	I/O	Tu	13Xs	CPU address bus.
12	VDD	–	–	–	Digital power.
13	A[17]	I/O	Tu	13Xs	CPU address bus.
14	A[16]	I/O	Tu	13Xs	CPU address bus.
15	A[15]	I/O	Tu	13Xs	CPU address bus.
16	A[14]	I/O	Tu	13Xs	CPU address bus.
17	VSS	–	–	–	Digital ground.
18	A[13]	I/O	Tu	13Xs	CPU address bus.
19	A[12]	I/O	Tu	13Xs	CPU address bus.
20	A[11]	I/O	Tu	13Xs	CPU address bus.
21	A[10]	I/O	Tu	13Xs	CPU address bus.
22	A[9]	I/O	Tu	13Xs	CPU address bus.
23	A[8]	I/O	Tu	13Xs	CPU address bus.
24	A[7]	I/O	Tu	13Xs	CPU address bus.
25	A[6]	I/O	Tu	13Xs	CPU address bus.
26	A[5]	I/O	Tu	13Xs	CPU address bus.
27	A[4]	I/O	Tu	13Xs	CPU address bus.
28	VDD	–	–	–	Digital power.
29	A[3]	I/O	Tu	13Xs	CPU address bus.
30	A[2]	I/O	Tu	13Xs	CPU address bus.
31	A[1]	I/O	Tu	13Xs	CPU address bus.
32	A[0]	I/O	Tu	13Xs	CPU address bus.
33	GPIO[20]/ALTTONE	I/O	Hu	13Xs	GPIO[20] or ALTTONE.
34	NC	–	–	–	No connection.
35	NC	–	–	–	No connection.
36	NC	–	–	–	No connection.
37	NC	–	–	–	No connection.
38	NC	–	–	–	No connection.
39	GPIO[19]/RDY/SEROUT	I/O	Hu	13Xs	GPIO[19], bus ready or serial port data output for autobaud detection.
40	GPIO[11]/BE/SERINP	I/O	Hu	13Xs	GPIO[11], bus enable or serial port data input for autobaud detection.
41	VSS	–	–	–	Digital ground.
42	PCLK/DMAACK	O	–	3XC	Thermal Print Head (TPH) clock or ext. DMA acknowledge.
43	PDAT	O	–	2XC	Serial printing data (to TPH).
44	PLAT	O	–	3XC	TPH data latch.
45	STRB[3]	O	–	1XC	Strobe signal for TPH.
46	STRB[2]	O	–	1XC	Strobe signal for TPH.
47	STRB[1]	O	–	1XC	Strobe signal for TPH.
48	STRB[0]	O	–	1XC	Strobe signal for TPH.
49	STRBPOL/DMAREQ	I	H	–	Sets strobe polarity active high/low or ext. DMA request.
50	VDD	–	–	–	Digital power.
51	GPIO[17]	I/O	Hu	13Xs	GPIO[17].
52	GPIO[16]/IRQ[8]	I/O	Hu	13Xs	GPIO[16] or ext. interrupt with priority 8.
53	GPIO[15]/CS[5]n	I/O	Hu	13Xs	GPIO[15] or I/O chip select 5.
54	GPIO[14]/CS[4]n	I/O	Hu	13Xs	GPIO[14] or I/O chip select 4.
55	GPIO[13]/CS[3]n	I/O	Hu	13Xs	GPIO[13] or I/O chip select 3.
56	GPIO[12]/CS[2]n	I/O	Hu	13Xs	GPIO[12] or I/O chip select 2.
57	GPIO[4]/CPCIN	I/O	Hu	13Xs	GPIO[4] or Call Party Control input.
58	VSS	–	–	–	Digital ground.
59	LEDCTL/GPO[16]	O	–	4XC	Indicates the OPO[7:0] outputs are for LEDs or GPO[16].
60	NC	–	–	–	No connection.
61	LEDCS/GPO[17]	O	–	1XC	LCD Chip select or GPO[17].
62	GPIO[7]/SSRXD2	I/O	Hu	13Xs	GPIO[7] or SSIF2 receive data.
63	GPIO[6]/SSTXD2	I/O	Hu	13Xs	GPIO[6] or SSIF2 transmit data.

**SCE114 (IC10) Terminal descriptions**

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
64	GPIO[5]/SSCLK2	I/O	Hu	13Xs	GPIO[5] or SSIF2 clock.
65	GPIO[10]/SSSTAT2	I/O	Hu	13Xs	GPIO[10] or SSIF2 status.
66	VDRAM	–	–	–	DRAM battery power.
67	RASn	O	–	13Xs	(Batt. Pwr.) DRAM row address select.
68	CAS[1]n	O	–	13Xs	(Batt. Pwr.) DRAM column address select.
69	CAS[0]n	O	–	13Xs	(Batt. Pwr.) DRAM column address select.
70	DWRn	O	–	13Xs	(Batt. Pwr.) DRAM write.
71	VBAT	–	–	–	Battery power.
72	XIN	I	Osc1	–	(Batt. Pwr.) 32.768KHz Crystal Oscillator input.
73	XOUT	O	–	Osc1	(Batt. Pwr.) 32.768KHz Crystal Oscillator output.
74	WRPROTn	O	–	1XC	(Batt. Pwr.) Write protect during loss of VDD power.
75	CS0n	O	–	13Xs	(Battery Powered) SRAM Chip select.
76	TEST[1]	I	Hd	–	(Batt. Pwr.) Test mode.
77	TEST[0]	I	Hd	–	(Batt. Pwr.) Test mode.
78	BATRSTn	I	H	–	(Batt. Pwr.) Battery power reset input.
79	INTPWRDWNEn	I	H	–	(Batt. Pwr.) Internal power down select signal.
80	PWRDWNn	I/O	H	13Xs	(Batt. Pwr.) Indicates a prime power loss from ext./internal source (mode dependent).
81	NC	I	Analog	–	No Connection.
82	ADGA	–	VADG	–	A/D analog ground.
83	VREFn/CLREF	I	VR-	–	Negative reference voltage for Video A/D.
84	VIN	I	VA	–	Analog Video A/D input.
85	ADGA	–	VADG	–	A/D analog ground.
86	ADVA	–	VADV	–	A/D analog power.
87	ADXG	–	VXG	–	A/D internal ground.
88	VREFp	I	VR	–	Positive reference voltage for Video A/D.
89	IVREFn	I	VR-	–	Internal negative reference voltage for A/D.
90	IVREFp	I	VR+	–	Internal positive reference voltage for A/D.
91	VDD	–	–	–	Digital power.
92	THADI	I	Analog	–	Analog Thermal A/D input.
93	OPO[7]/GPO[15]	O	–	13Xs	Keyboard LED strobe 7 or GPO[15].
94	OPO[6]/GPO[14]	O	–	13Xs	Keyboard LED strobe 6 or GPO[14].
95	OPO[5]/GPO[13]	O	–	13Xs	Keyboard LED strobe 5 or GPO[13].
96	OPO[4]/GPO[12]/SSTXD1	O	–	13Xs	Keyboard LED strobe 4 or GPO[12] or transmit data for SSIF1.
97	OPO[3]/GPO[11]	O	–	13Xs	Keyboard LED strobe 3 or GPO[11].
98	OPO[2]/GPO[10]/RINGER	OZ	–	13Xs	Keyboard LED strobe 2 or GPO[10] or ringer.
99	OPO[1]/GPO[9]/PMPWRCTRL	O	–	13Xs	Keyboard LED strobe 1 or GPO[9] or Printer motor power control.
100	OPO[0]/GPO[8]/SMPWRCTRL	O	–	13Xs	Keyboard LED strobe 0 or GPO[8] or Stepper motor power control.
101	OPI[3]/GPIO[24]	I/O	Hu	13Xs	Keyboard return 3 or GPIO[24].
102	OPI[2]/GPIO[23]/SSCLK1	I/O	Hu	13Xs	Keyboard return 2 or GPIO[23] or SSIF1 clock.
103	OPI[1]/GPIO[22]/SSSTAT1	I/O	Hu	13Xs	Keyboard return 1 or GPIO[22] or SSIF1 status.
104	OPI[0]/GPIO[21]/SSRXD1	I/O	Hu	13Xs	Keyboard return 0 or GPIO[21] or SSIF1 receive data.
105	RESETn	I/O	Hu	2XC	Chip reset.
106	VSS	–	–	–	Digital ground.
107	GPIO[18]/IRQ[9]n	I/O	Hu	13Xs	GPIO[18] or ext. interrupt priority 9.
108	GPIO[3]/SASCLK	I/O	Hu	13Xs	GPIO[3] or SASIF clock.
109	GPIO[2]/SASRXD	I/O	Hu	13Xs	GPIO[2] or SASIF receive data.
110	GPIO[1]/SASTXD	I/O	Hu	13Xs	GPIO[1] or SASIF transmit data.
111	GPIO[9]/FRDn	I/O	Hu	13Xs	GPIO[9] or flash read enable signal for NAND-type flash memory.
112	GPIO[8]/FWRn	I/O	Hu	13Xs	GPIO[8] or flash write enable signal for NAND-type flash memory.
113	FCSn[2]/VIDCTL[1]/GPO[22]	O	–	13Xs	Flash memory chip select 2 or video control signal 1 or GPO[22].
114	FCSn[1]/VIDCTL[0]/GPO[23]	O	–	13Xs	Flash memory chip select 1 or video control signal 1 or GPO[23].
115	CLK2/GPO[24]	O	–	13Xs	Scanner reset gate control (or clock for CIS scanner) or GPO[24].
116	CLK1n/GPO[25]	O	–	13Xs	Scanner clock-inverted or GPO[25].
117	CLK1	O	–	2XC	Scanner clock.
118	START	O	–	2XC	Scanner shift gate control.
119	VDD	–	–	–	Digital power.
120	TONE	O	–	Analog	Analog tone output.
121	VSS	–	–	–	Digital ground.
122	GPIO[25]/STROBEN	I/O	Hu	13Xs	GPIO[25] or P1284 input from host.
123	GPIO[26]/AUTOFDN	I/O	Hu	13Xs	GPIO[26] or P1284 input from host.
124	GPIO[27]/INITN	I/O	Hu	13Xs	GPIO[27] or P1284 input from host.
125	GPIO[28]/SLCTINN	I/O	Hu	13Xs	GPIO[28] or P1284 input from host.
126	GPIO[26]/ACKN	O	–	13Xs	GPIO[26] or P1284 returned status to host.

**SCE114 (IC10) Terminal descriptions**

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
127	GPO[27]/BUSY	O	–	13Xs	GPO[27] or P1284 returned status to host.
128	GPO[28]/PERROR	O	–	13Xs	GPO[28] or P1284 returned status to host.
129	GPO[29]/SLCTOUT	O	–	13Xs	GPO[29] or P1284 returned status to host.
130	GPO[30]/FAULTN	O	–	13Xs	GPO[30] or P1284 returned status to host.
131	GPIO[29]/PIOD[0]	I/O	Hu	13Xs	GPO[29] or P1284 data or address driven by asic or host (mode dependent).
132	GPIO[30]/PIOD[1]	I/O	Hu	13Xs	GPO[30] or P1284 data or address driven by asic or host (mode dependent).
133	GPIO[31]/PIOD[2]	I/O	Hu	13Xs	GPO[31] or P1284 data or address driven by asic or host (mode dependent).
134	GPIO[32]/PIOD[3]	I/O	Hu	13Xs	GPO[32] or P1284 data or address driven by asic or host (mode dependent).
135	GPIO[33]/PIOD[4]	I/O	Hu	13Xs	GPO[33] or P1284 data or address driven by asic or host (mode dependent).
136	GPIO[34]/PIOD[5]	I/O	Hu	13Xs	GPO[34] or P1284 data or address driven by asic or host (mode dependent).
137	GPIO[35]/PIOD[6]	I/O	Hu	13Xs	GPO[35] or P1284 data or address driven by asic or host (mode dependent).
138	GPIO[36]/PIOD[7]	I/O	Hu	13Xs	GPO[36] or P1284 data or address driven by asic or host (mode dependent).
139	VDD	–	–	–	Digital power.
140	GPIO[0]/SR4IN	I/O	Hu	13Xs	GPIO[0] or from secondary EXTIA SOUT to DSP.
141	GPO[31]/SR3OUT	O	–	13Xs	GPO[31] or a signal to the secondary ext. IA (SIN pin) from the DSP.
142	GPIO[37]/IRQ15n	I/O	Hu	13Xs	GPIO[37] or a signal from the ext. IA to a DSP status register.
143	IARESET	O	–	13Xs	A reset from the DSP to the ext. IA (POR pin).
144	IACLK/DSPCSn	O	–	13Xs	A signal from the DSP to the ext. IA (MCLK pin) or ext. modem chip select.
145	IA1CLK	I/O	H	13Xs	A signal from the ext. IA (ICLK pin) to the DSP.
146	SR3IN/DSPIRGn	I	H	13Xs	A signal from the primary ext. IA (SOUT pin) to the DSP or ext. modem interrupt input.
147	SR4OUT	O	–	13Xs	A signal to the primary ext. IA (SIN pin) from the DSP.
148	SR1IO	I/O	H	13Xs	A signal to the ext. IA (CTRL1 pin) from the DSP.
149	SA1CLK	I/O	H	13Xs	A signal from the ext. IA (FSYNC pin) to the DSP.
150	VSSPLL	–	–	–	Ground for PLL.
151	TSTCLK	O	–	13Xs	Test clock, used to synchronize ext. logic.
152	DEBUGn	I	Hu	–	External non-maskable input (NMI).
153	RDn	O	–	13Xs	Read strobe.
154	WRn	O	–	13Xs	Write strobe.
155	SYNC/GPO[20]	I/O	Hu	13Xs	Indicates a CPU op code fetch cycle or GPO[20].
156	ROMCSn	O	–	13Xs	ROM chip select.
157	CS1n/GPO[21]	O	–	13Xs	I/O chip select or GPO[21].
158	VSS	–	–	–	Digital ground.
159	SXIN	I	OSC0	–	32.256MHz crystal oscillator input.
160	SXOUT	O	–	OSC0	32.256MHz crystal oscillator output.
161	VDD	–	–	–	Digital power.
162	PM[3]/GPO[3]	O	–	13Xs	Programmable print motor control pin or GPO[3].
163	PM[2]/GPO[2]	O	–	13Xs	Programmable print motor control pin or GPO[2].
164	PM[1]/GPO[1]	O	–	13Xs	Programmable print motor control pin or GPO[1].
165	PM[0]/GPO[0]	O	–	13Xs	Programmable print motor control pin or GPO[0].
166	SM[3]/GPO[7]	O	–	13Xs	Programmable scan motor control pin or GPO[7].
167	SM[2]/GPO[6]	O	–	13Xs	Programmable scan motor control pin or GPO[6].
168	SM[1]/GPO[5]	O	–	13Xs	Programmable scan motor control pin or GPO[5].
169	SM[0]/GPO[4]	O	–	13Xs	Programmable scan motor control pin or GPO[4].
170	REGDMA/GPO[18]/CLKConfig[0]	O	–	13Xs	Register select cycle/dma cycle or GPO[18] and sxin clock divider config. during reset.
171	WAITn/GPO[19]/CLKConfig[1]	I/O	Hu	13Xs	Wait state/halt state indication or GPO[19] and sxin lock divider config. during reset.
172	VDDPLL	–	–	–	Power for PLL.
173	D[7]	I/O	Tu	13Xs	CPU data bus.
174	D[6]	I/O	Tu	13Xs	CPU data bus.
175	D[5]	I/O	Tu	13Xs	CPU data bus.
176	D[4]	I/O	Tu	13Xs	CPU data bus.



(2) Panel control block

The following controls are performed by the SCE114.

- Operation panel key scanning
- Operation panel LCD display

(3) Mechanism/recording control block

- Recording control block diagram (1)

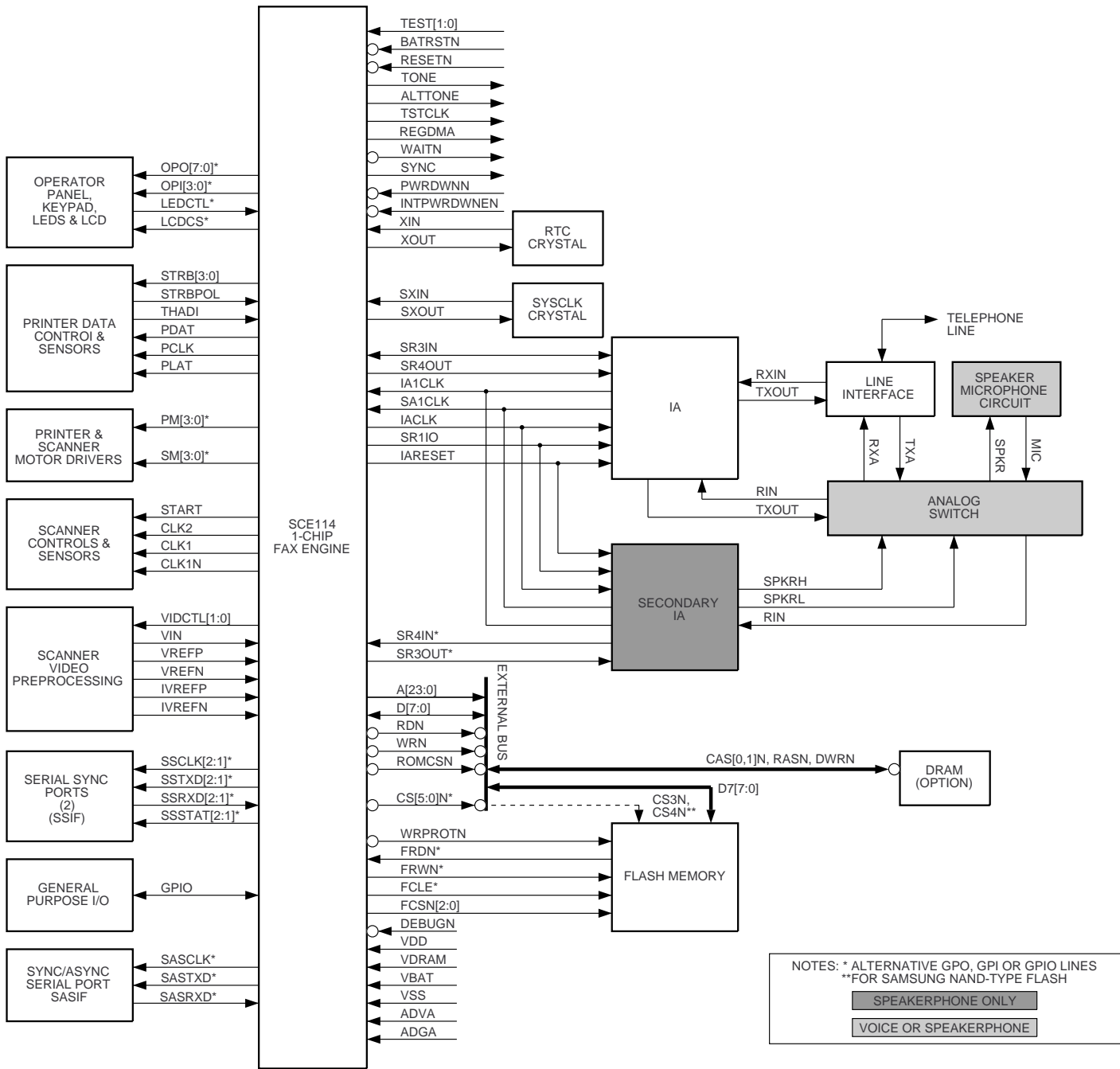


Fig. 4

#### (4) Modem (SCE114/20415) block

##### INTRODUCTION

The CONEXANT SCE114 modem is a synchronous 14400 bits per second (bps) half-duplex modem with error detection and DTMF reception. It has low power consumption and requires +5V and +3.3V DC power supply.

The modem can operate over the public switched telephone network (PSTN) through line terminations provided by a data access arrangement (DAA).

The SCE114 is designed for use in Group 3 facsimile machines.

The modem satisfies the requirements specified in ITU-T recommendations V.17, V.29, V.27 ter, V.21 Channel 2 and T.4, and meets the binary signaling requirements of T.30.

The modem can operate at 14400, 12000, 9600, 7200, 4800, 2400, or 300 bps, and also includes the V.27 ter short training sequence option. The modem can also perform HDLC framing according to T.30 at 9600, 7200, 4800, 2400, or 300 bps.

The modem features a programmable DTMF receiver and three programmable tone detectors which operate concurrently with the V.21 channel 2 receiver.

The voice mode allows the host computer to efficiently transmit and receive audio signals and messages.

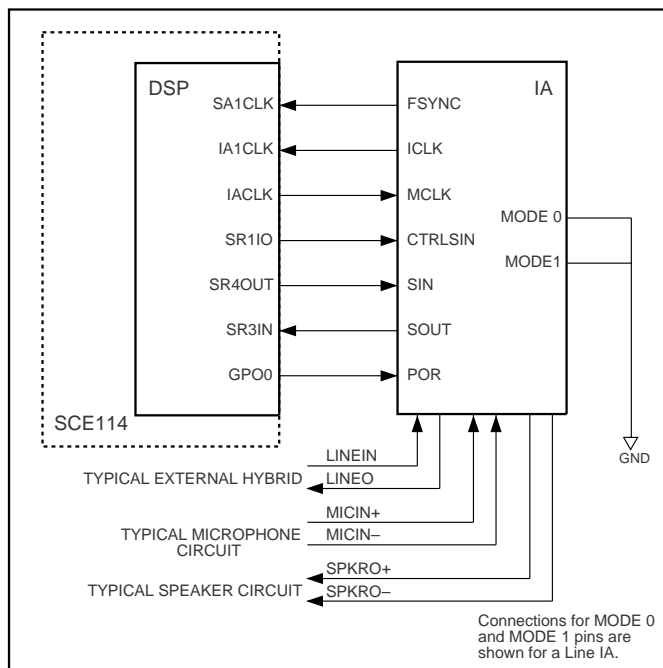


Fig. 5

##### FEATURES

- Group 3 facsimile transmission/reception
  - ITU-T V.17, V.33, V.29, V.27 ter, T.30, V.21 Channel 2, T.4
  - ITU-T V.17 and V.27 ter short train
  - HDLC framing at all speeds
  - Receive dynamic range: 0 dBm to -43 dBm
  - Automatic adaptive equalization
  - Fixed and programmable digital compromise equalization
  - DTMF detect and tone detect
  - ITU-T V.21 Channel 2 FSK 7E Flag Detect
  - Ring detector
  - Programmable transmits level
  - Programmable single/dual tone transmission
- V.23 and Type I Caller ID
  - Full-duplex modes:
    - TX = 75 bps. RX = 1200 bps
    - TX = 1200 bps. RX = 75 bps
  - Half-duplex mode:
    - TX = RX = 1200 bps
  - Serial and parallel data modes
  - Programmable parallel data mode
  - 5, 6, 7 or 8 data bits
  - 1 or 2 Stop bits
  - Mark, Space, Even, or Odd Parity
  - Break function
  - Transmitter squelch
  - Compromise equalizer
- Programmable interface memory interrupt
- Eight General Purpose Input (GPI) and eight General Purpose Output (GPO) pins for host assignment
- DTE interface: two alternate ports
  - Selectable microprocessor bus (6500 or 8085)
  - ITU-T V.24 (EIA/TIA-232-E compatible) interface
- TTL and CMOS compatible
- 3.3V/5V operation
- Power consumption
  - Operating Mode: 200 mW (Basic), 275 mW (-V option), 300 mW (-VS option)
  - Sleep Mode: 1 ma (Basic, -V option and -VS option)

[3] Circuit description of TEL/LIU PWB

(1) TEL/LIU block operational description

1) Block diagram

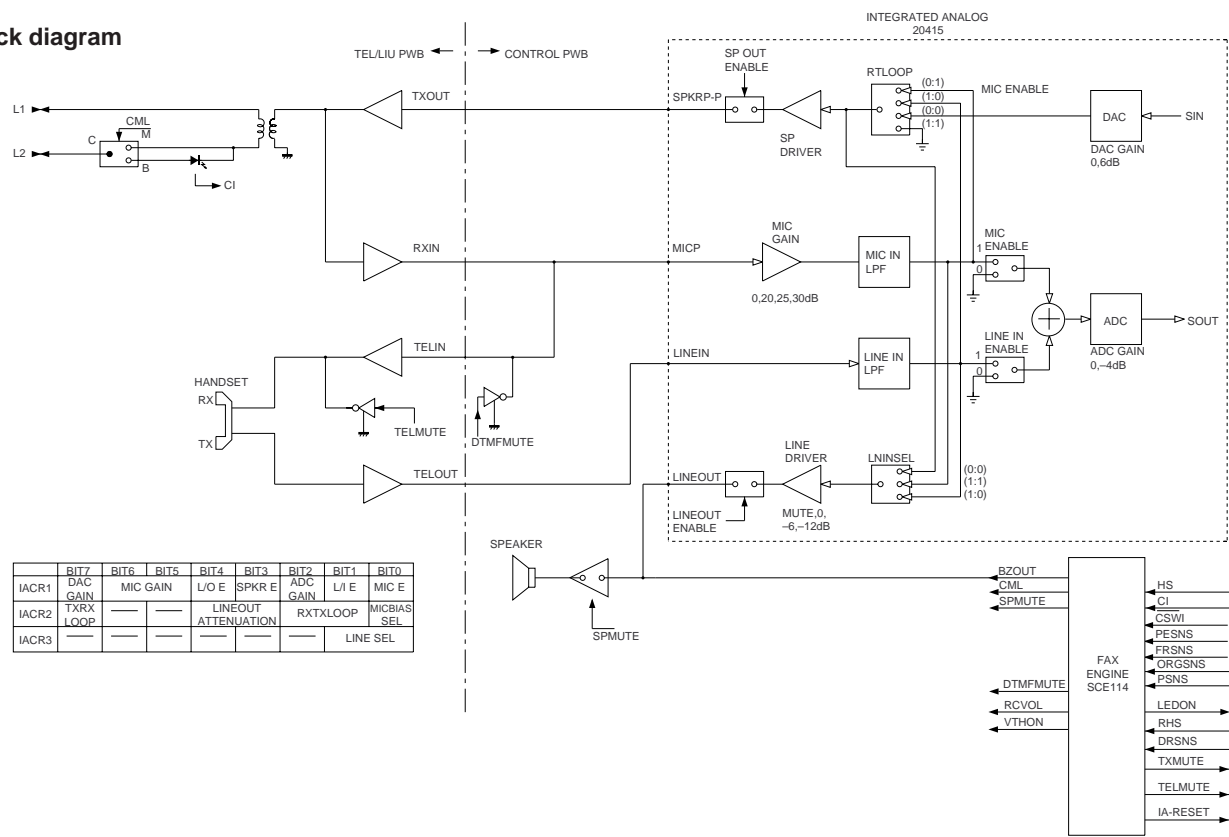


Fig. 6

2) Circuit description

The TEL/LIU PWB is composed of the following 7 blocks.

1. Speech circuit section
2. Dial transmission section
3. Speaker amplifier section
4. Ringer circuit section
5. Externally connected TEL OFF HOOK detection circuit
6. CI detection circuit
7. Signal/DTMF transmission level & receiving level

3) Block description

1. Speech circuit section

- The receiver volume is an electronic volume type, this model is switched in 2 steps.

2. Dial transmission section

- D.P. transmission: The CML relay is turned on and off for control in the DP calling system. (Refer to the attached sheet.)
- DTM transmission: It is formed in the modem, and is output.

3. Speaker amplifier section

- Ringer volume :It is controlled by the combination of the attenuator value of the LINE DRIVER in the modem and the ringer sending level sent from the modem.
- Speaker volume :It is controlled by the attenuator value of the LINE DRIVER in the modem.

4. Ringer circuit section

- The ringer sound is formed in the tone of modem when CI signal is detected. The amplifier circuit drives the speaker of the main body.

#### 5. Externally connected TEL OFF HOOK detection circuit section

- The circuit current detection is turned on together with OFF HOOK of main body or OFF HOOK of externally connected TEL. ON of CML OFF ( $\overline{HS}=L$ ) is judged as OFF HOOK of externally connected TEL.

#### 6. CI detection circuit

- CI is detected by the photo coupler which is integrated in series in the primary side TEL circuit well proven in the existing unit.

#### 7. Signal/DTMF transmission level & receiving level

- Signal transmission level setting: ATT -10 dB Circuit output: -12 dBm.
- DTMF transmission level setting: HF -3.5 dBm LF -5.0 dBm  
Thus, set the level.

#### 4) Signal selection

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

Signal Name	Description
CML (The circuit is located in the TEL/LIU PWB.)	<u>Line connecting relay and DP generating relay</u> H: Line make L: Line break
SP MUTE (The circuit is located in the TEL/LIU PWB.)	<u>Speaker tone mute control signal</u> H: Muting (Power down mode) L: Muting cancel (Normal operation)
TEL MUTE	<u>Handset reception mute control signal</u> H: Muting L: Muting cancel

VOLUME SETTING		LINEOUT A		RCVOL	DTME MUTE
		(HIGH)	(LOW)		
Receiver volume setting	Low			0	1
	High			0	0
	Middle			1	0
DTMF Transmission volume setting (Receiver)	Fixed			0	1
Key buzzer volume setting	Fixed				
Speaker volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		
Ringer volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		
DTMF speaker volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		

[Signals for status recognition according to input signals]

Signal Name	Function
$\overline{\text{RHS}}$	H: The handset is in the on-hook state. L: The handset is in the off-hook state.
CI	Incoming call (CI) detection signal

[Other signals]

Signal Name	Function
TEL IN	Receiving signal from line or modem
TEL OUT	Transfer signal to line
SPOUT	Speaker output signal
TXOUT	Transmission (DTMF) analog signal output from modem
RXIN	Reception (DTMF, others) analog signal input into modem

NO	Signal Name (CNLIUA)	NO	Signal Name (CNLIUA)
1	TELOUT	8	$\overline{\text{RHS}}$
2	TELMUTE	9	RXIN
3	TELIN	10	TXOUT
4	$\overline{\text{CI}}$	11	CML
5	$\overline{\text{HS}}$	12	+5V
6	PE	13	DG
7	$\overline{\text{PIN}}$	14	+24V

(Example: TEL speaking)

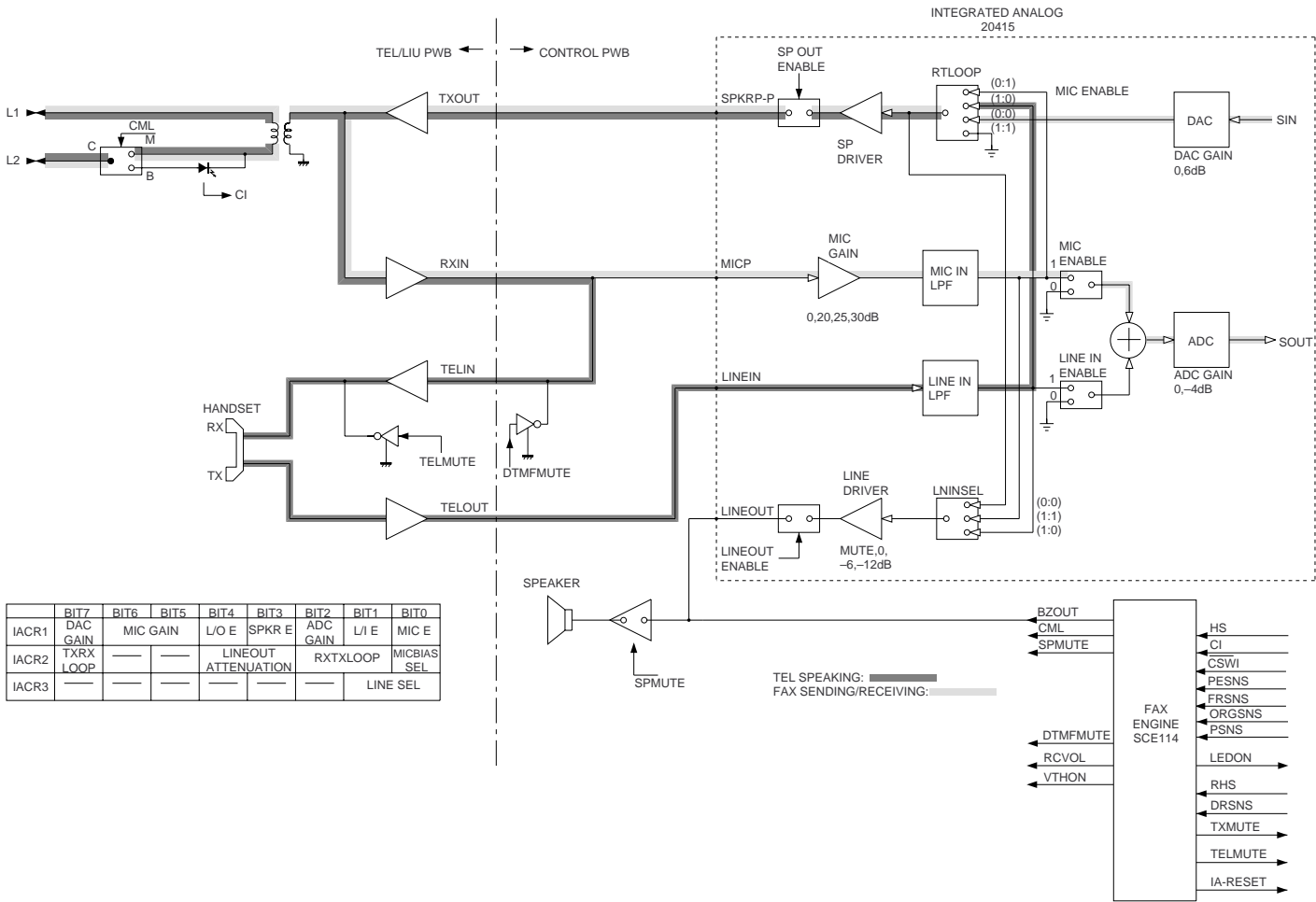


Fig. 7

## [4] Circuit description of power supply PWB

### 1. Block diagram

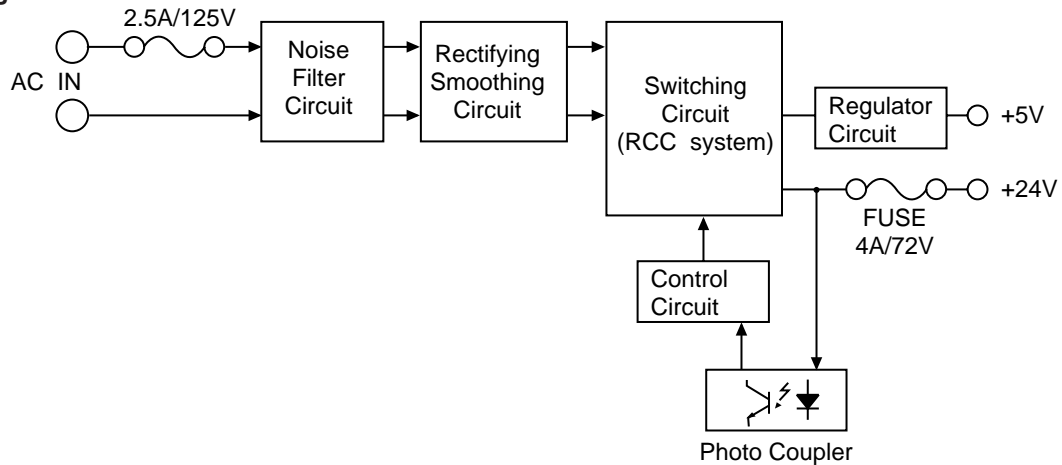


Fig. 8

#### 2-1. Noise filter circuit

The input noise filter section is composed of L1 and C1, which reduces normal mode noise from the AC line and common mode noise to the AC line.

#### 2-2. Rectifying/smoothing circuit

The AC input voltage is rectified by diode D1, 2, 3, 4 and smoothed by capacitor C2 to supply DC voltage to the switching circuit section.

#### 2-3. Switching circuit

This circuit includes MOS FET Q1 and the gate drive circuit, and components around Q1.

In this circuit, the DC voltage supplied from the rectifying/smoothing section is converted into high frequency pulses by ON/OFF repetition of Q1.

#### 2-4. Control circuit

This circuit controls output voltage of +24V by adjusting ON period of Q1, looking at signal from photo coupler PC1.

In this operation IC1 takes charge of important part.

The over current protection is performed by bringing Q1 to OFF state through detection of voltage of T1 subwinding.

The over voltage protection is performed by operating the over current protection circuit through detection of zener diode ZD4 and short-circuiting of load.

#### 2-5. +5V circuit

DC voltage supplied by rectifying the output of transformer T1 with diode D8 is stabilized by 3-terminal regulator IC1.

## [5] Circuit description of CIS unit

### 1. CIS

Cis is an image sensor which puts the original paper in close contact with the full-size sensor for scanning, being a monochromatic type with the pixel number of 1,728 dots and the main scanning density of 8 dots/mm.

It is composed of sensor, rod lens, LED light source, light-conductive plate, control circuit and so on, and the reading line and focus are previously adjusted as the unit.

Due to the full-size sensor, the focus distance is so short that the set is changed from the light weight type to the compact type.

### 2. Waveforms

The following clock is supplied from SCE114 of the control board, and VO is output.

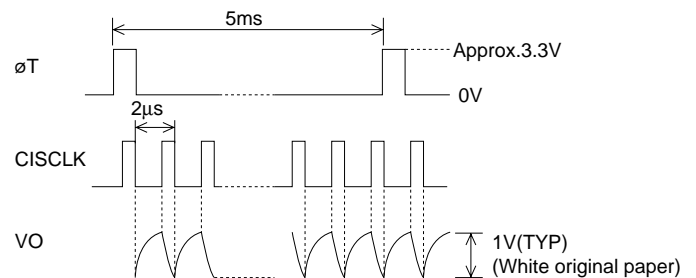


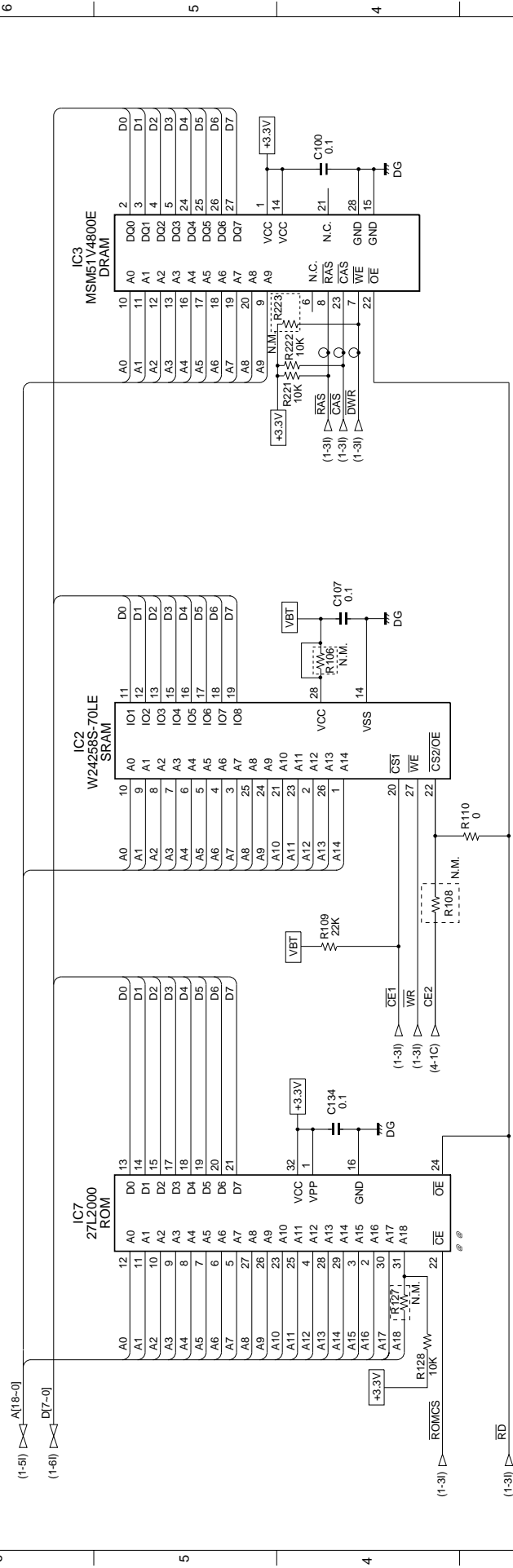
Fig. 9



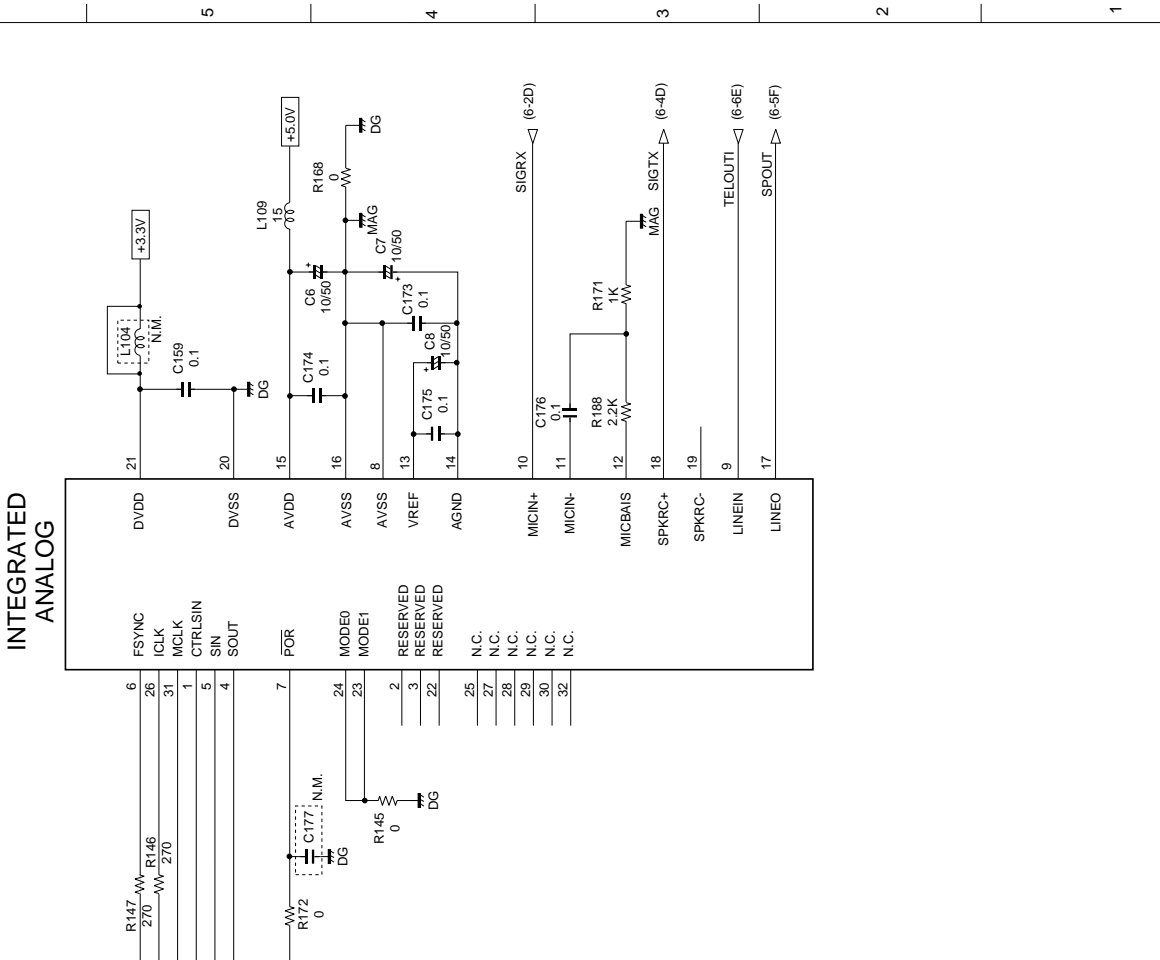


## Memory block

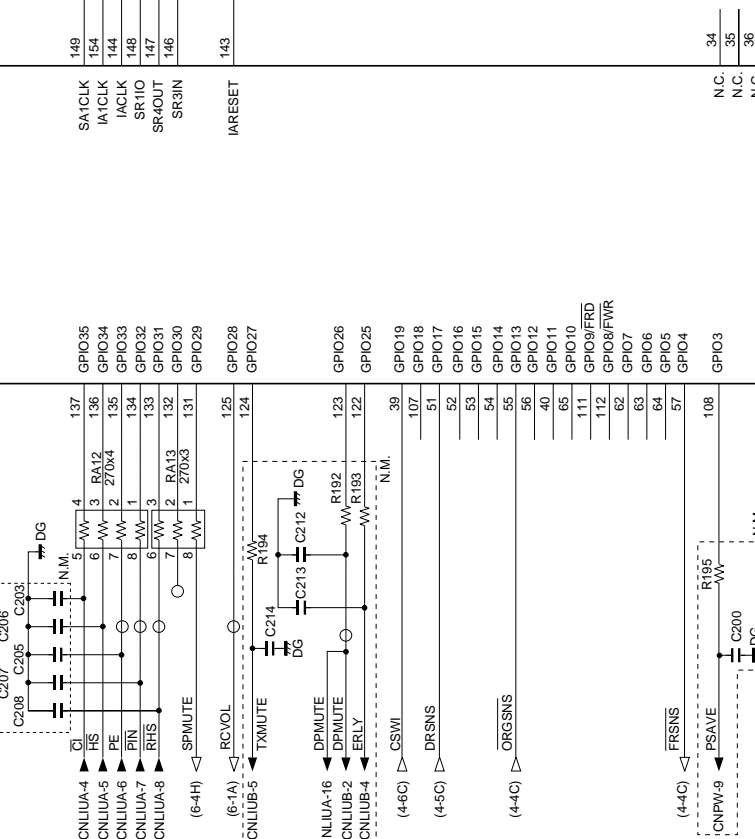
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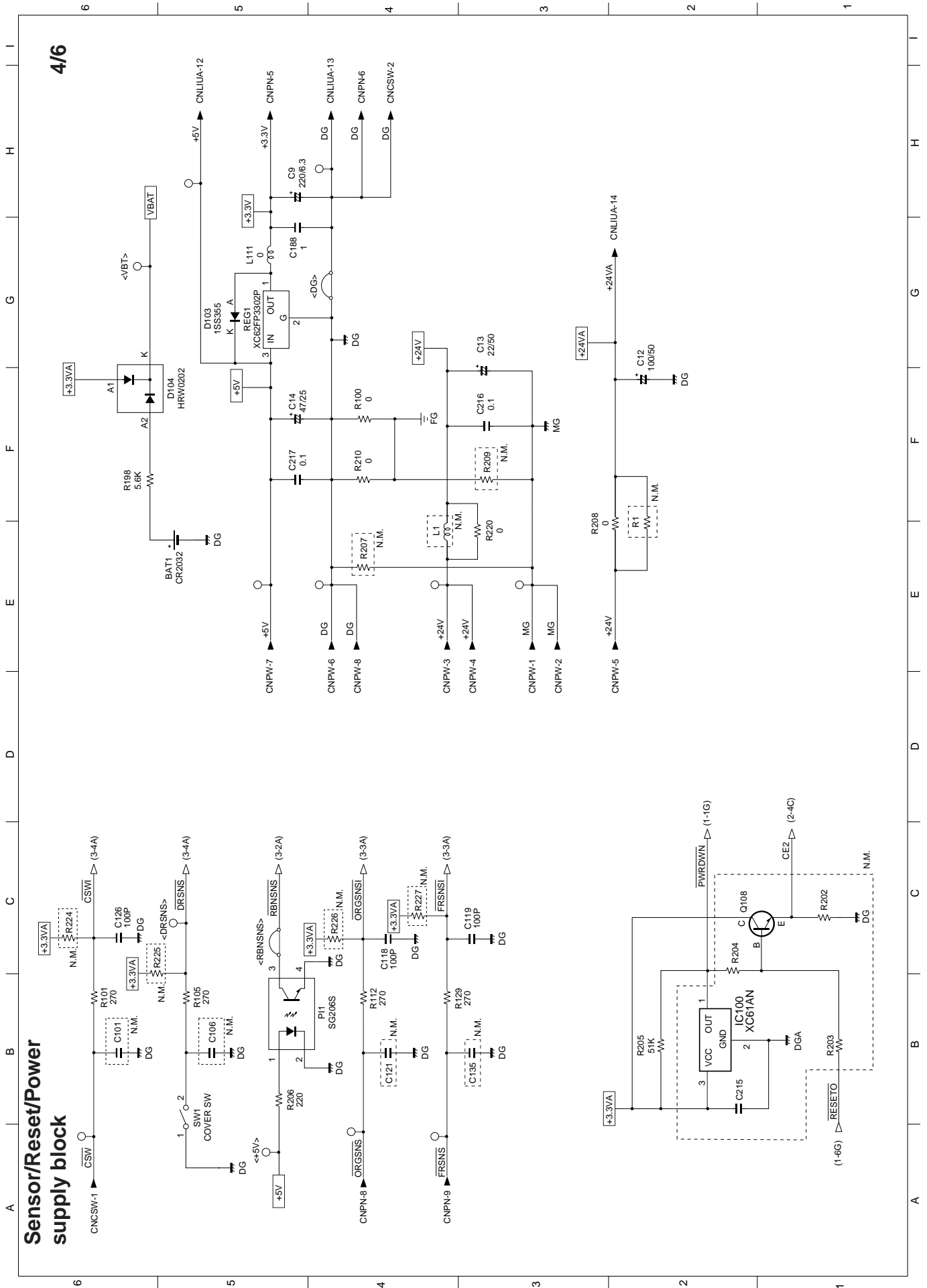


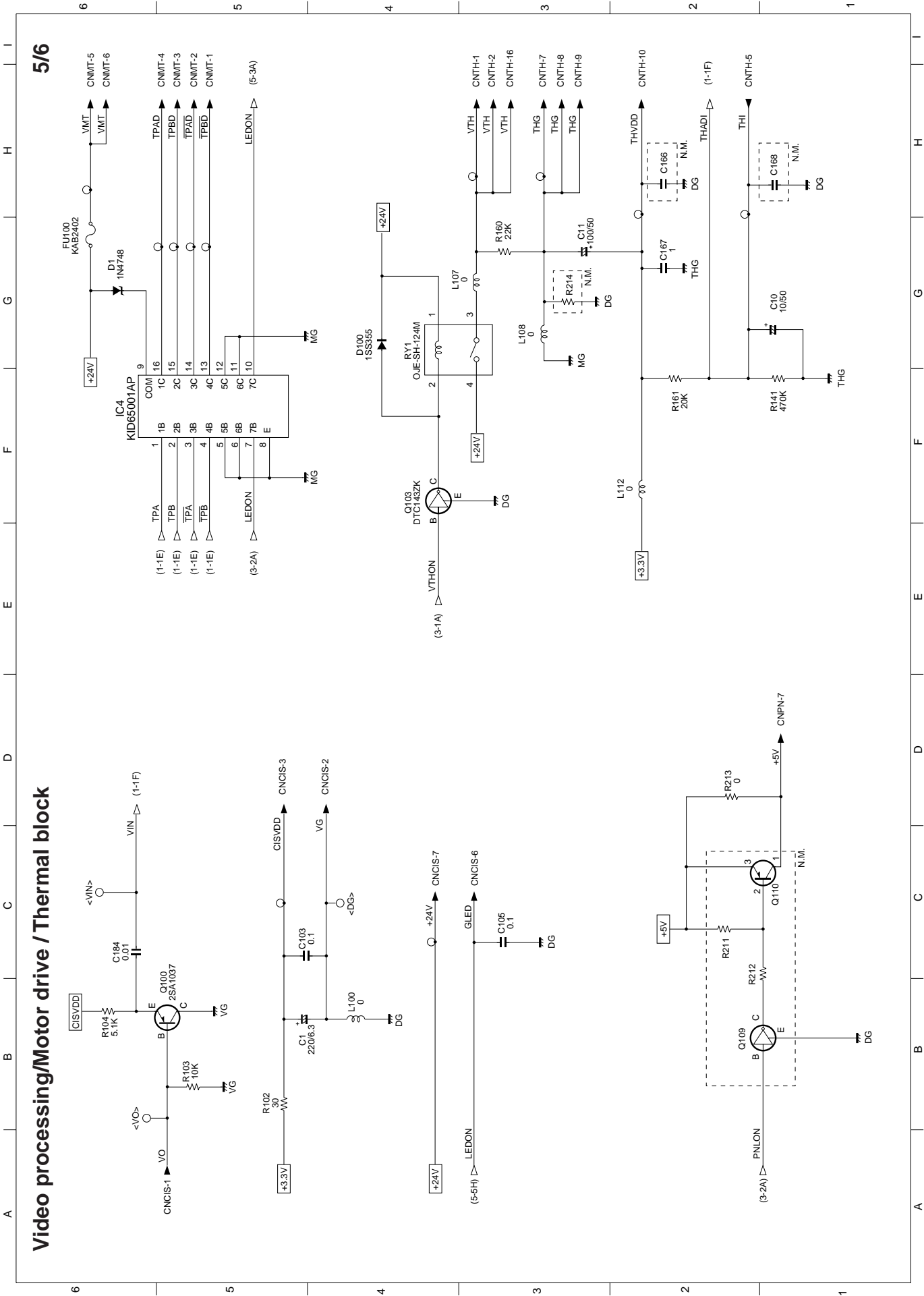
IC10  
SCE114(2/2)  
FAX CONTROLLER



IC11  
20415  
NTEGRATED  
ANALOG

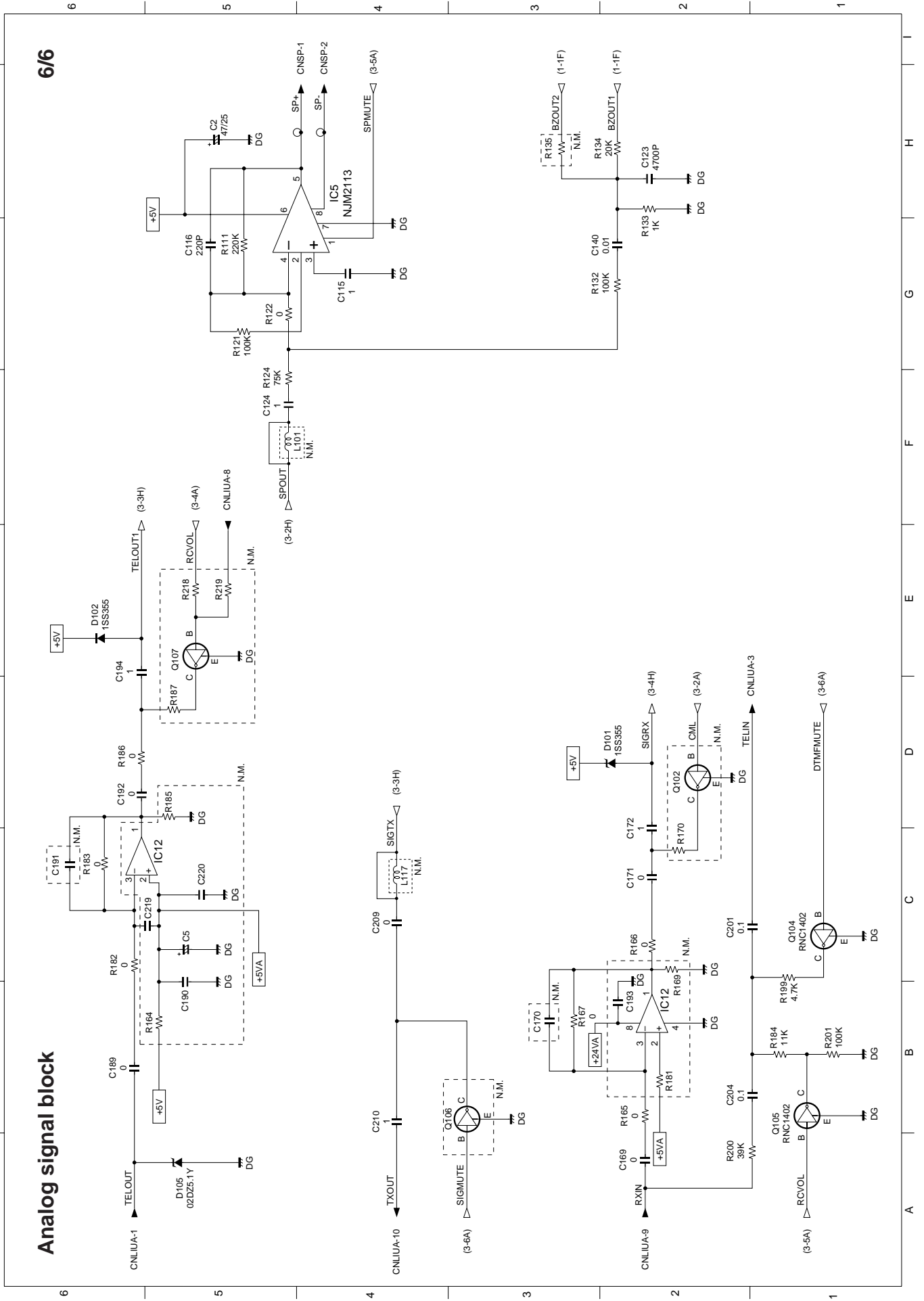




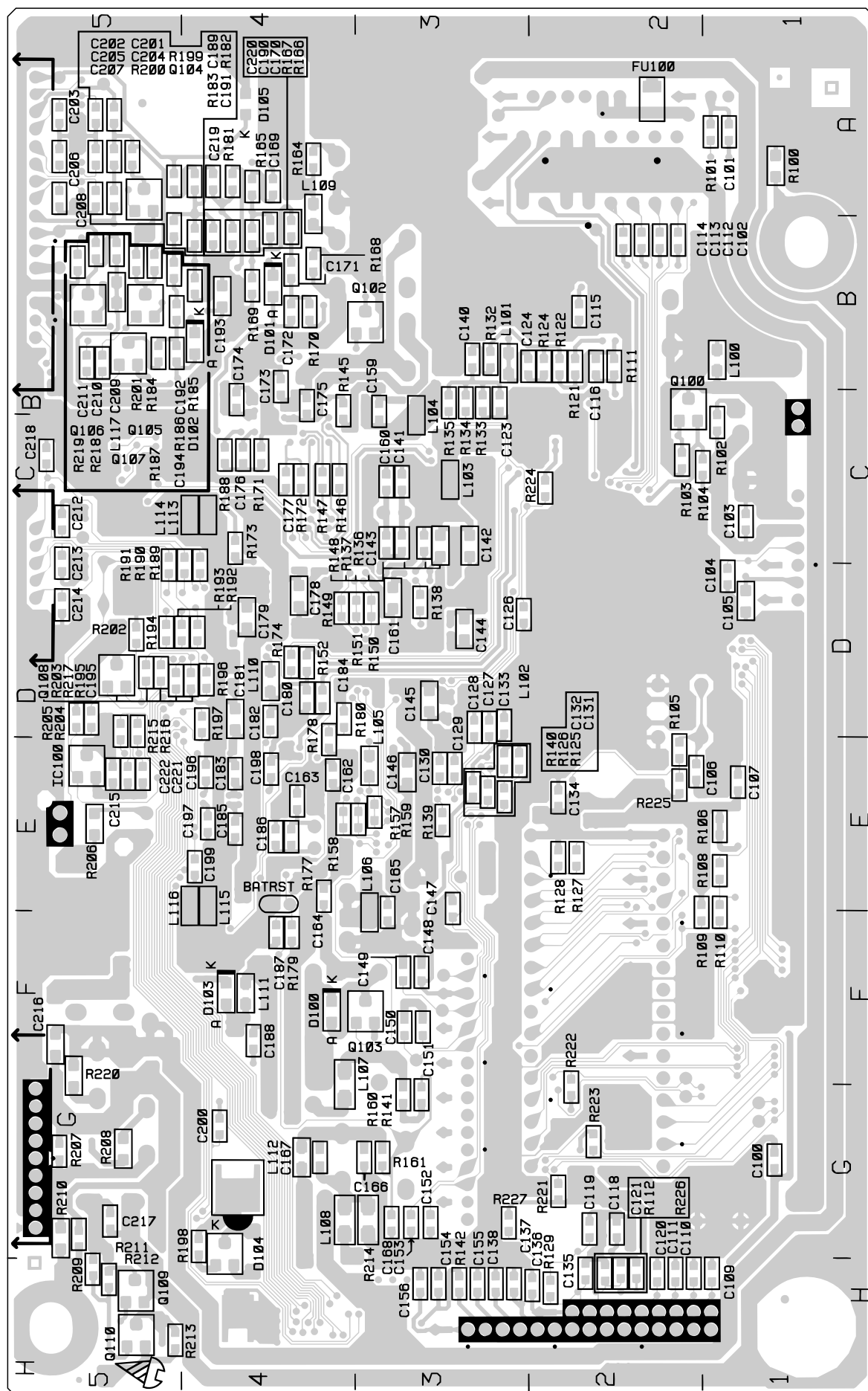


## Analog signal block

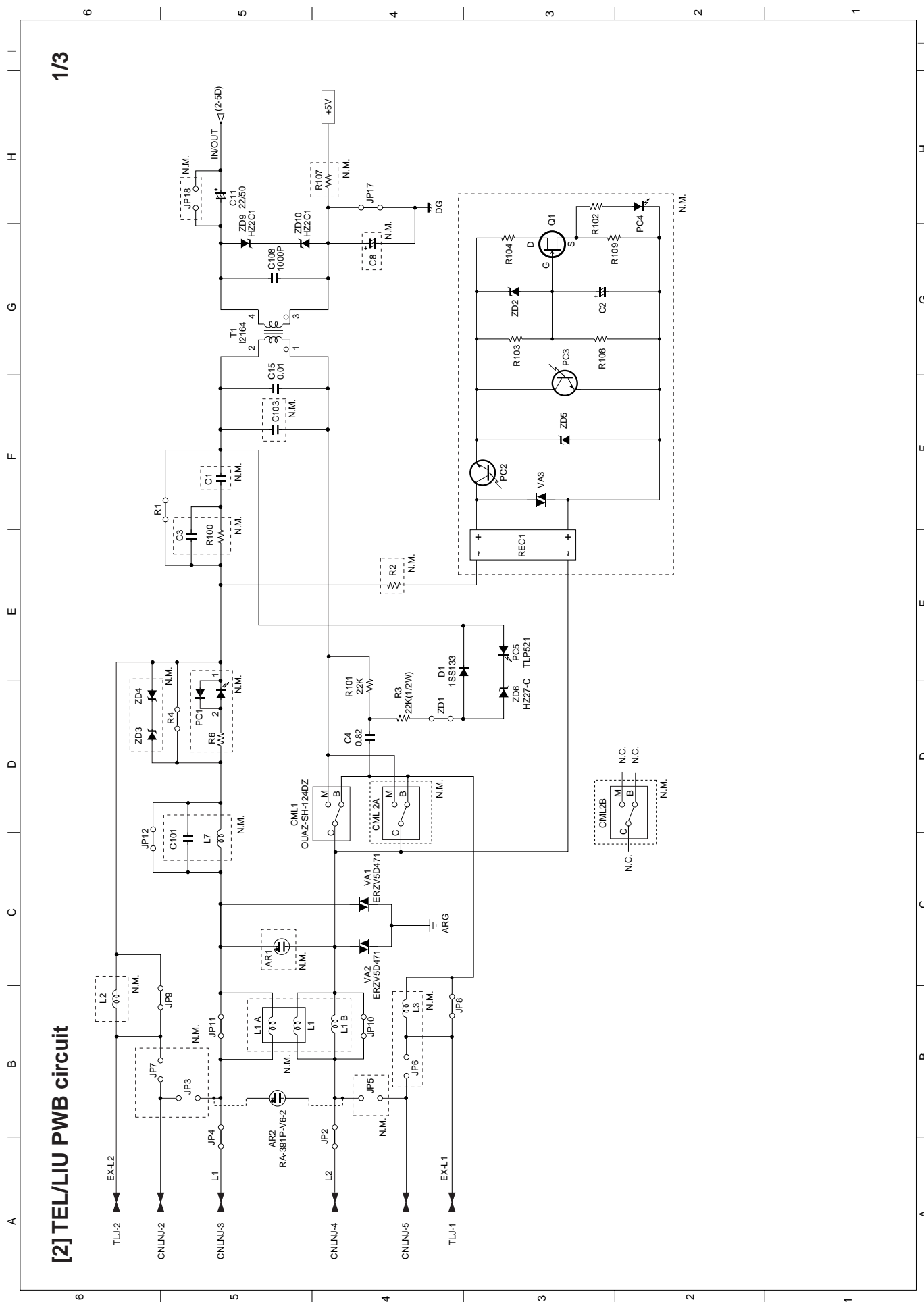
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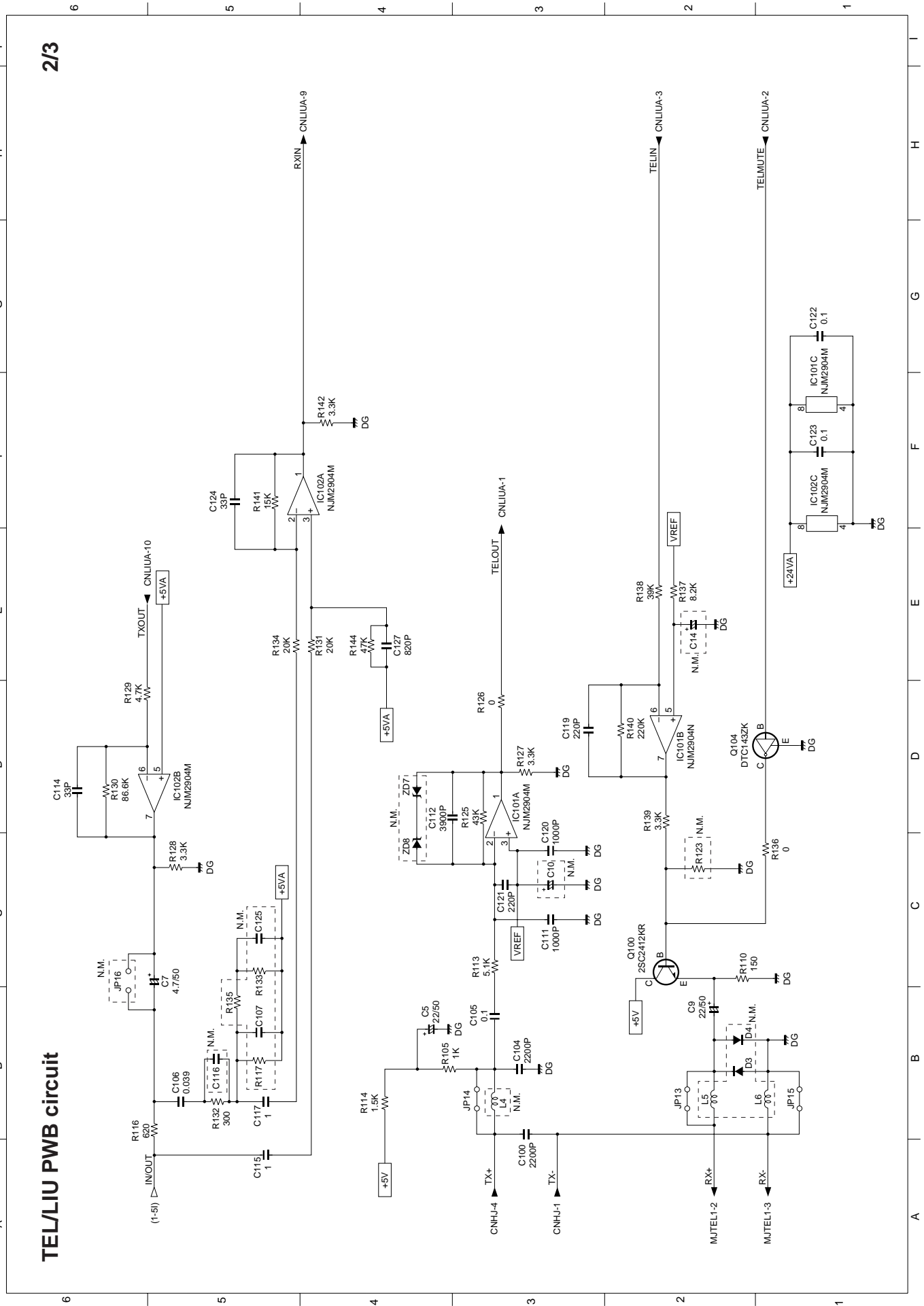






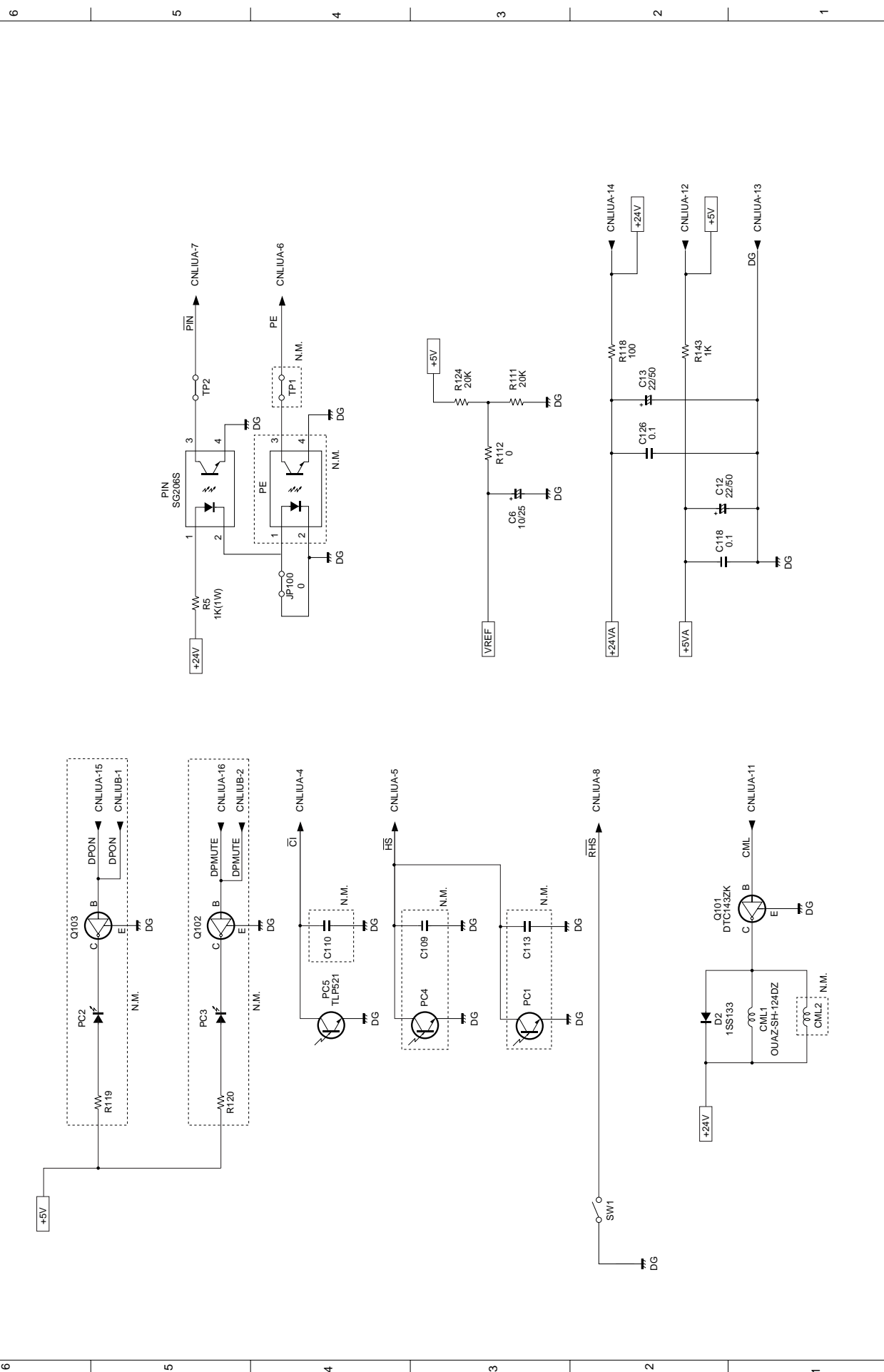
## TEL/LIU PWB circuit

2/3

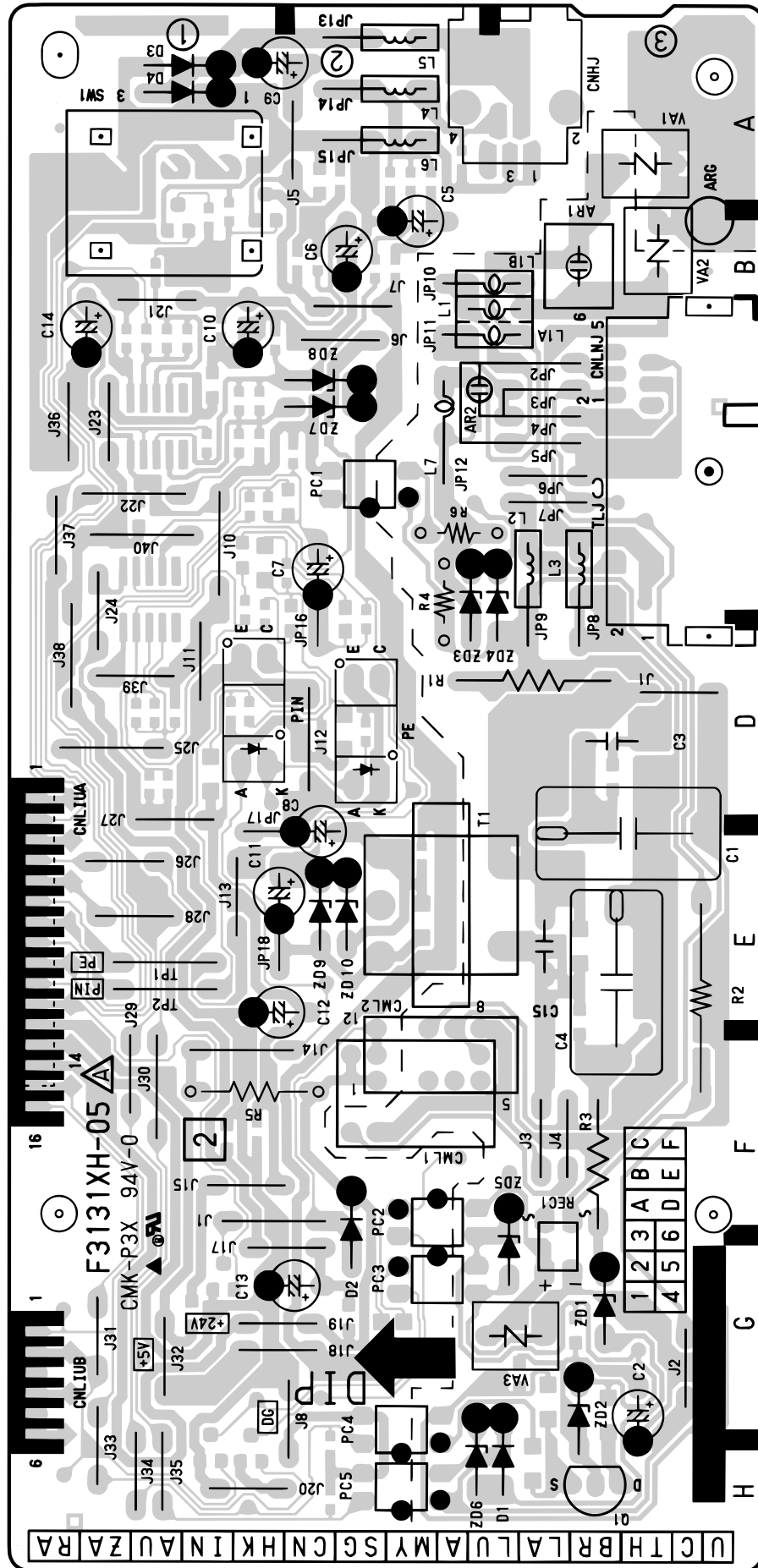


## TEL/LIU PWB circuit

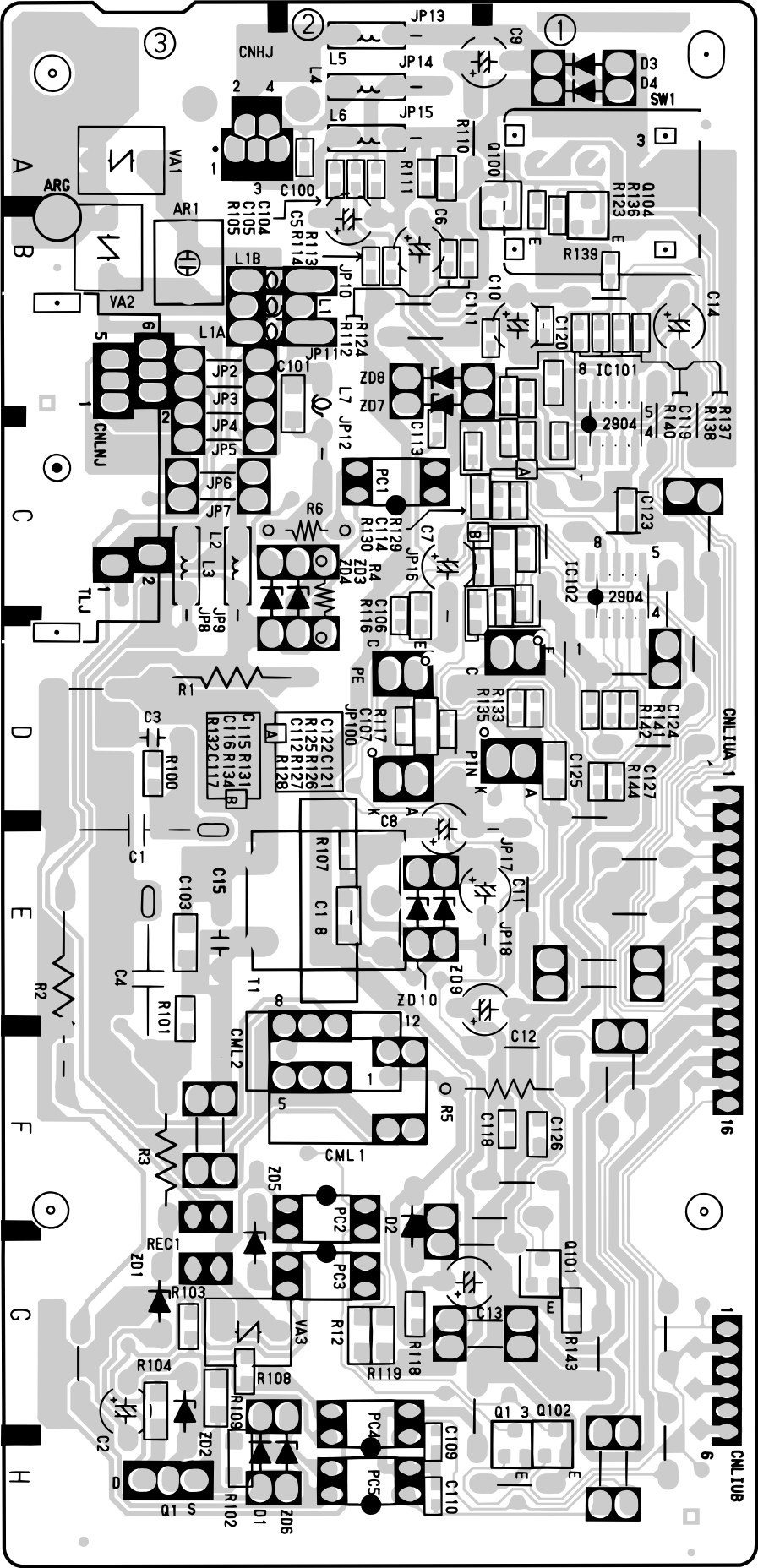
3/3



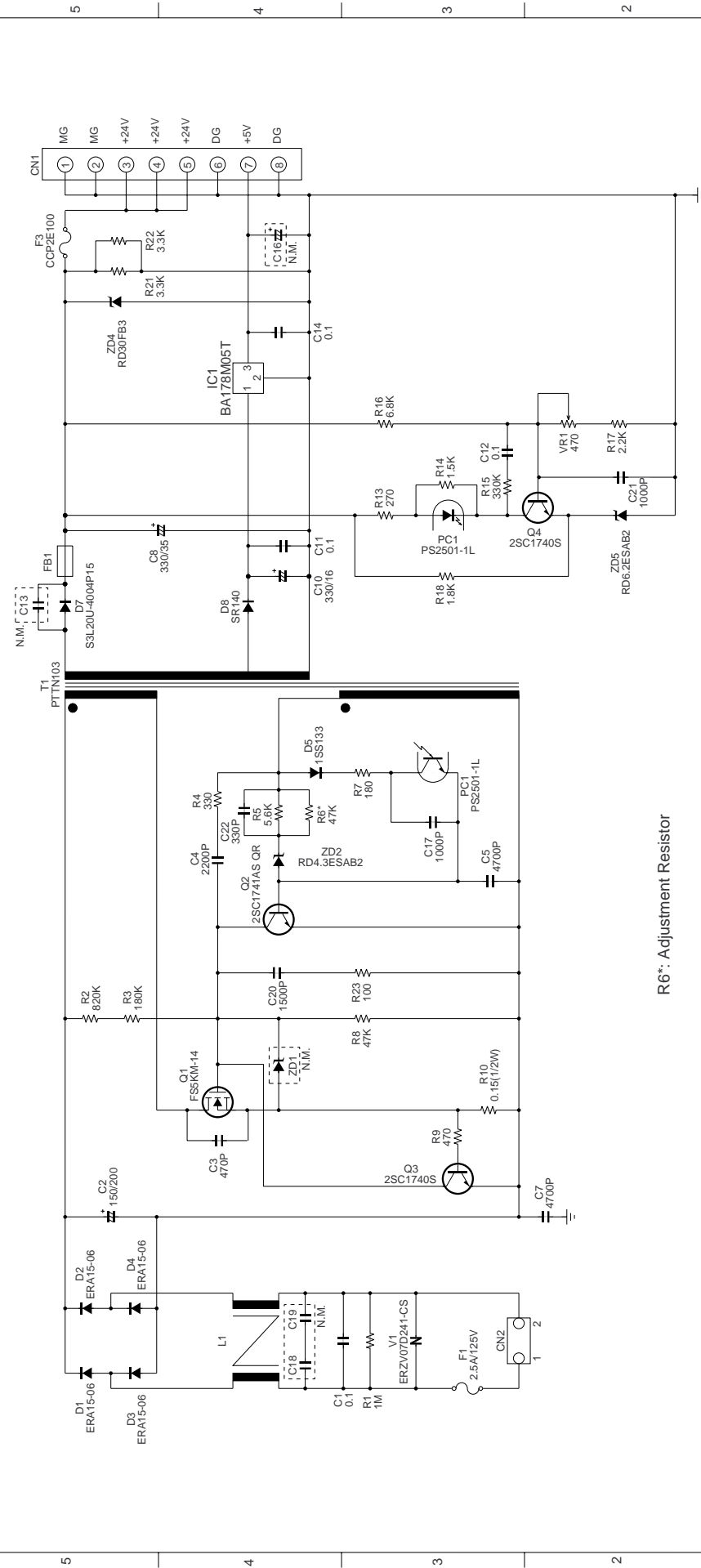
TEL/LIU PWB parts layout (Top side)



TEL/LIU PWB parts layout (Bottom side)

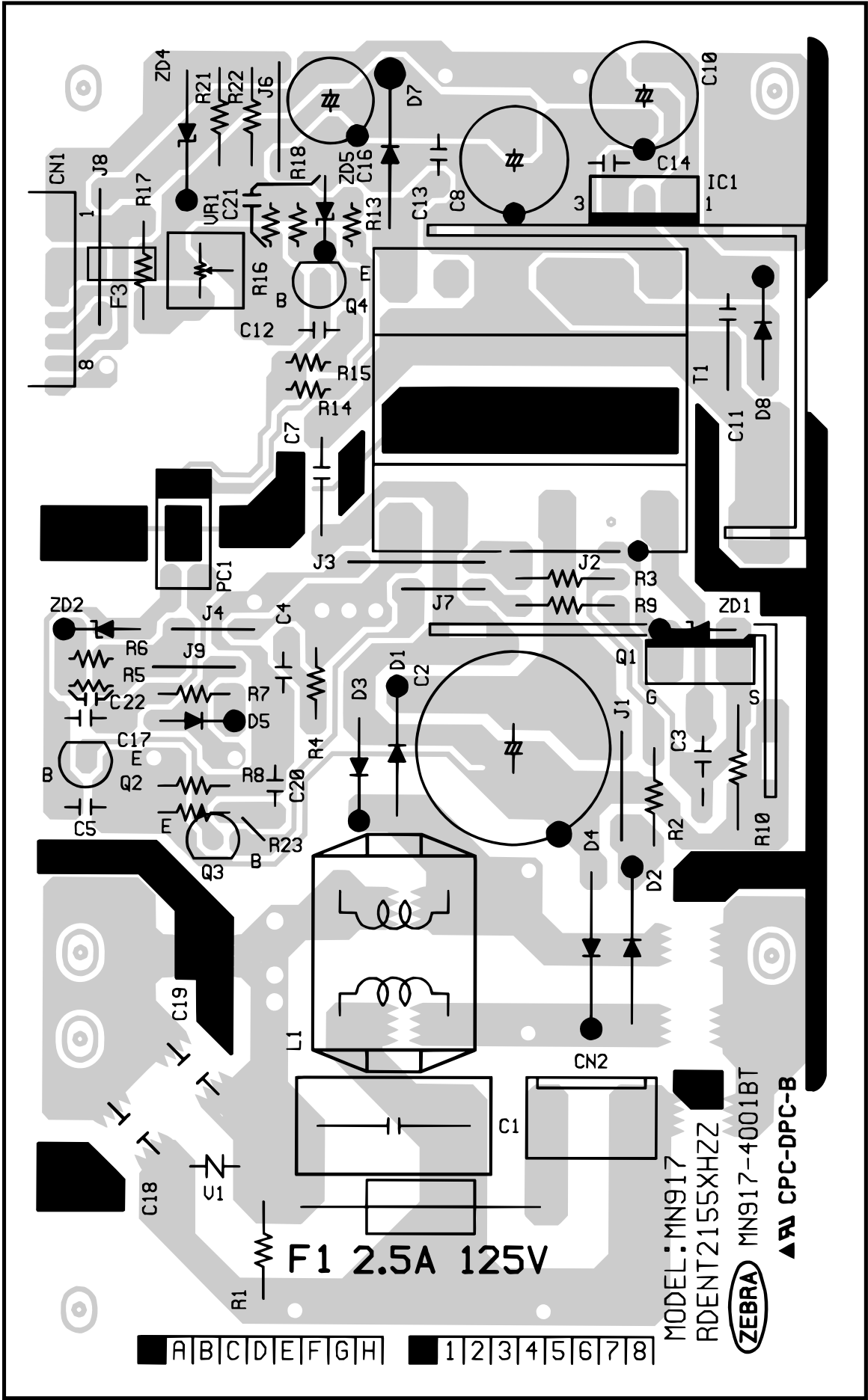


### [3] Power supply PWB circuit



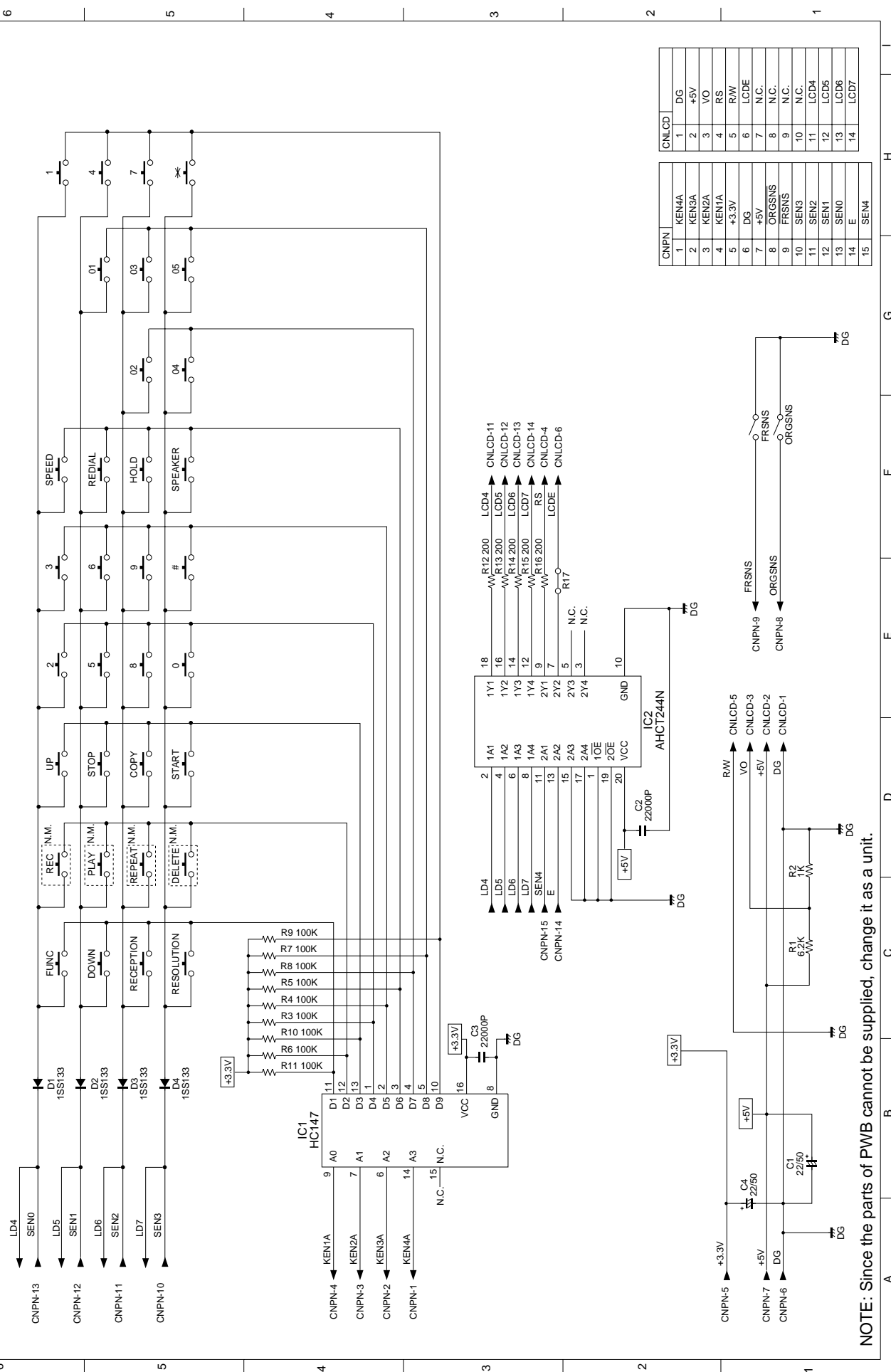
R6\*: Adjustment Resistor

Power supply PWB parts layout





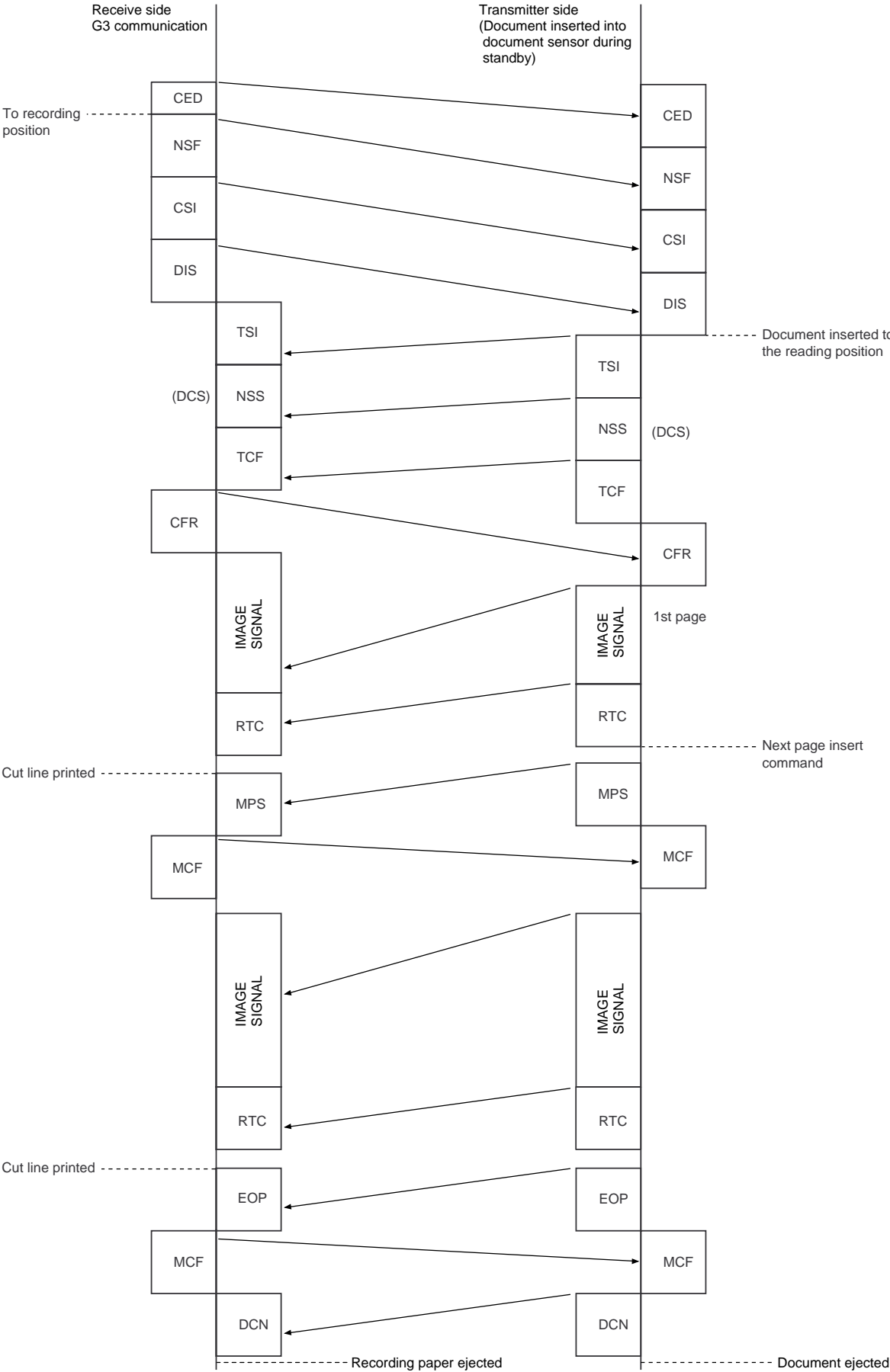
#### [4] Operation panel PWB circuit



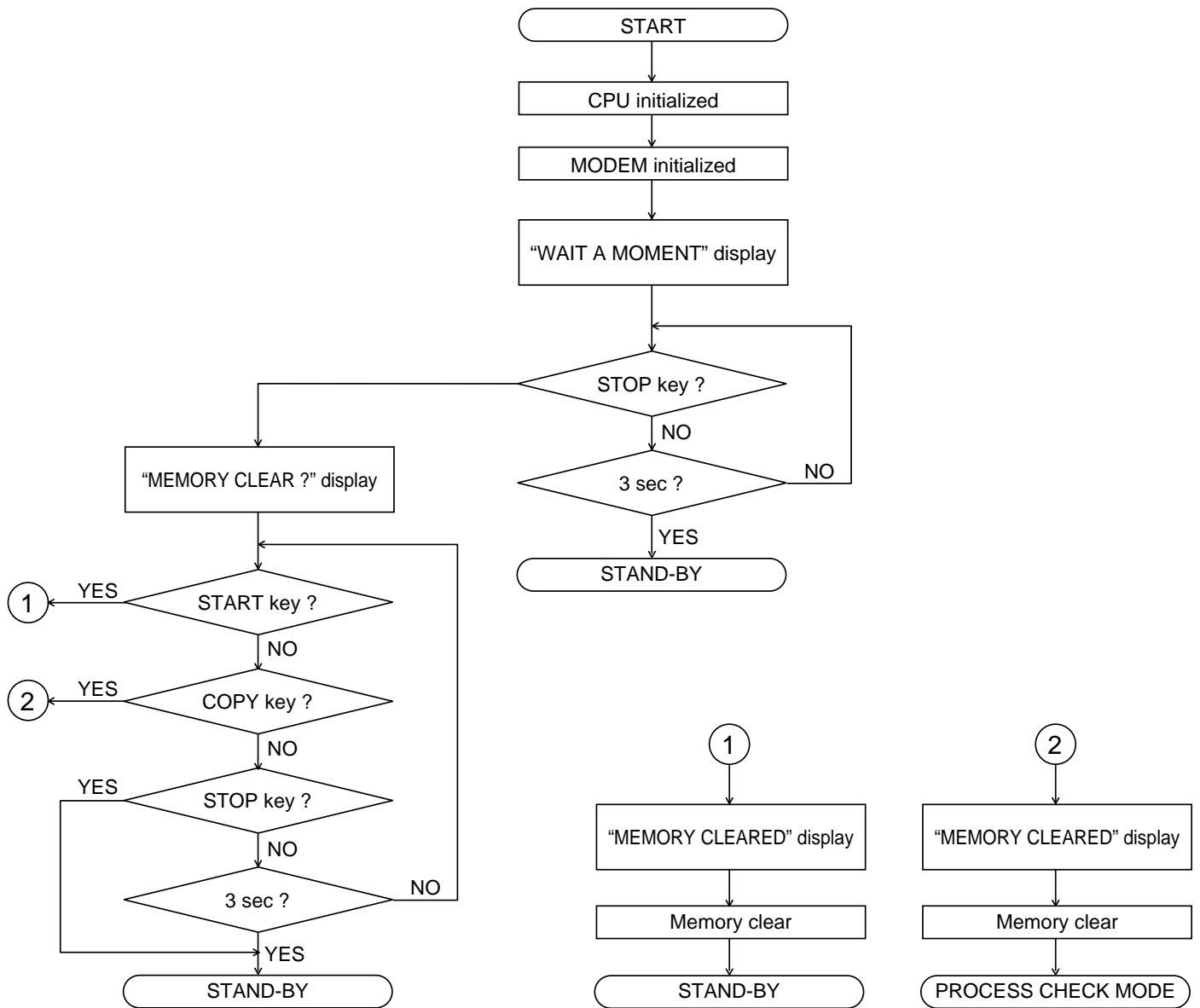
NOTE: Since the parts of PWB cannot be supplied, change it as a unit.

CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



## [2] Power on sequence



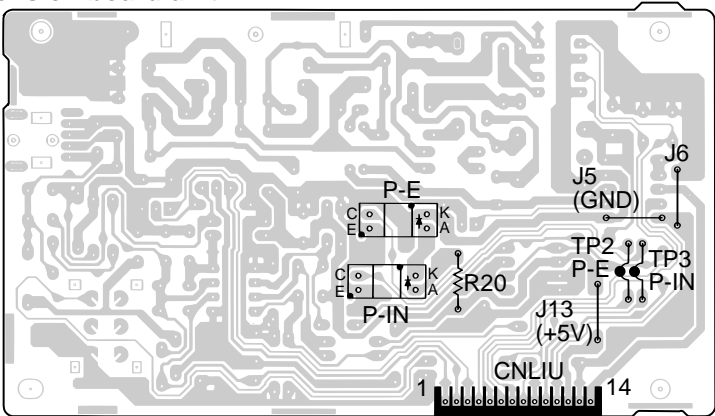
CHAPTER 8. OTHERS

[1] Service tools

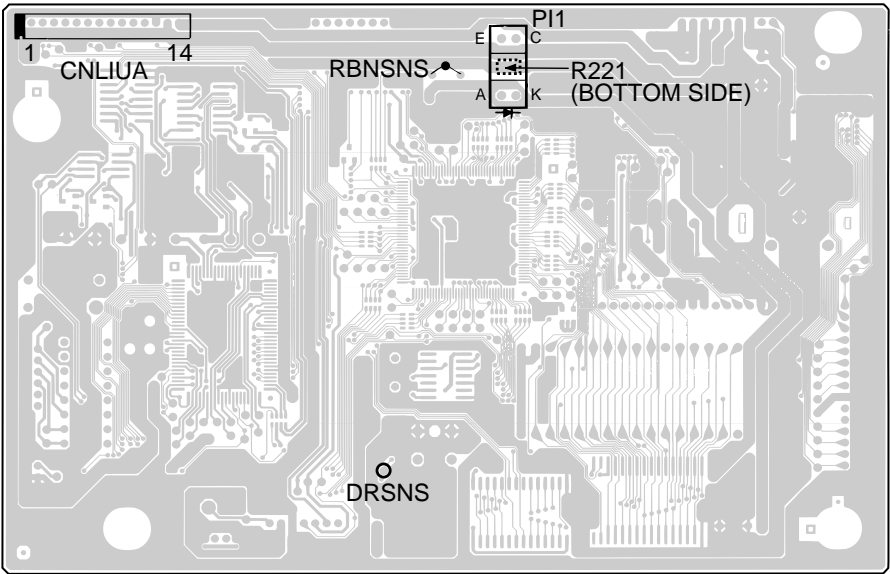
1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	C P W B S 3 0 0 2 S C S 1	Extension board unit (Control PWB)	1	BK
2	C P W B F 3 0 0 3 S C S 1	Extension board unit (TEL/LIU PWB)	1	BP
3	P S H E Z 3 3 5 4 S C Z Z	Shading wave memory standard paper	1	AD

Extension board unit



TEL/LIU PWB



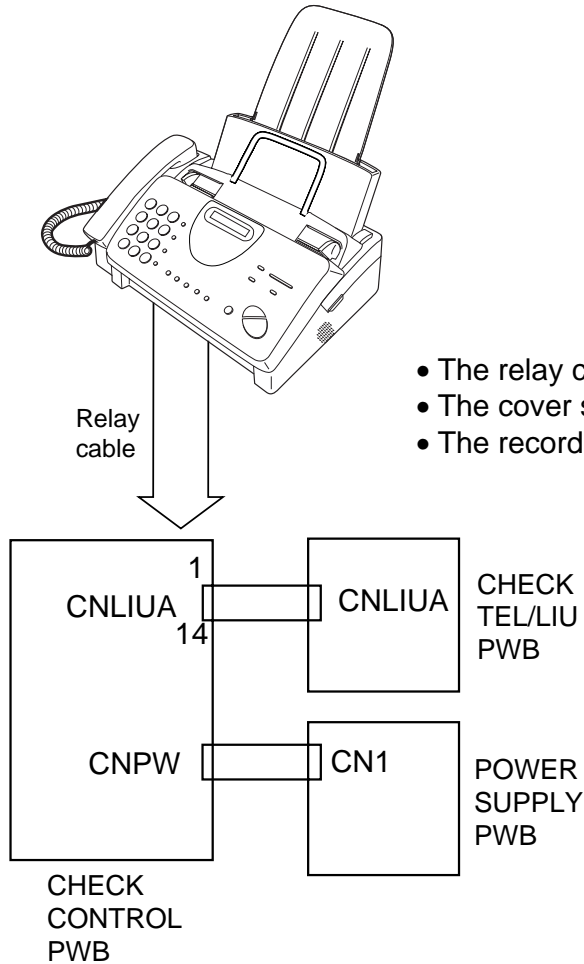
CONTROL PWB

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	C C N W - 4 7 5 6 S C 0 1	SPEAKER RELAY CABLE	1	AK
2	C C N W - 4 7 5 7 S C 0 1	PANEL RELAY CABLE	1	AW
3	C C N W - 4 7 5 8 S C 0 1	CIS RELAY CABLE	1	AQ
4	C C N W - 4 7 5 9 S C 0 1	HEAD RELAY CABLE	1	AX
5	C C N W - 4 7 6 0 S C 0 1	CAM SWITCH RELAY CABLE	1	AK
6	C C N W - 4 7 6 3 S C 0 1	MOTOR RELAY CABLE	1	AP
7	Q C N W - 4 9 6 9 S C Z Z	PAPER SENSOR RELAY CABLE	1	BF
8	V R S - T S 2 A D 2 2 1 J	RESISTOR (1/10W 220Ω ±5%)[R221]	1	AA
9	V H P S G 2 0 6 S // - 1	PHOTO TRANSISTOR [PI1]	1	AG
10	Q S W - M 2 2 5 9 X H Z Z	COVER SWITCH [SW1]	1	AF
11	Q C N C M 2 5 7 5 S C 1 D	CONNECTOR (14PIN)[CNLIUA]	1	AC
12	V R D - H T 2 E Y 1 0 1 J	RESISTOR (1/4W 100Ω ±5%)[R20]	1	AA
13	V H P S G 2 0 6 S // - 1	PHOTO TRANSISTOR [P-IN]	1	AG
14	V H P S G 2 0 6 S // - 1	PHOTO TRANSISTOR [P-E]	1	AG
15	Q C N C W 2 5 0 9 S C 1 D	CONNECTOR (14PIN)[CNLIU]	1	AF

## 2. Description

### 2-1. Relay board unit

1. Remove the TEL/LIU PWB, control PWB and Power Supply PWB from this unit, and mount the relay board unit instead.
  - Before connecting the wiring to the relay board unit, set the test PWB switches to the fixed position.
2. The setting is as follows.

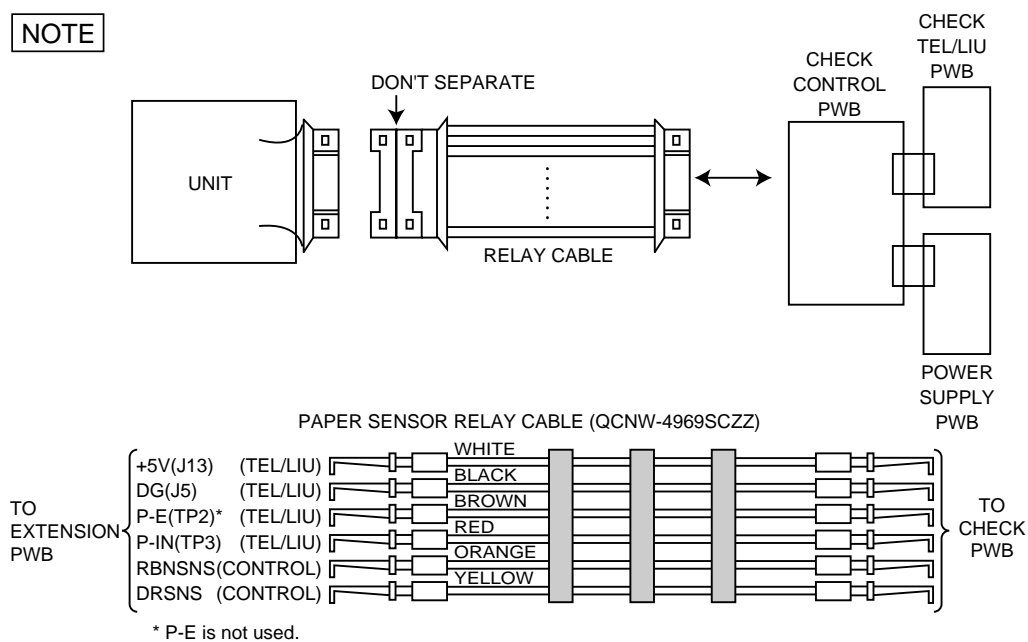


- The relay cables are used as one pair.
- The cover switch and hook switch are manually operated.
- The recording paper sensor(P-E) is not used.

The hook switch are operated by OR of the mechanical unit switch and the test PWB switch. When performing installation in the machine unit, set the test PWB switches to the fixed position.

	Mechanical unit	PWB to be tested
	Actual operation with mechanical unit	
Hook SW	ON/OFF operation	ON-HOOK
	PWB sensor check	
Hook SW	ON-HOOK	ON/OFF operation

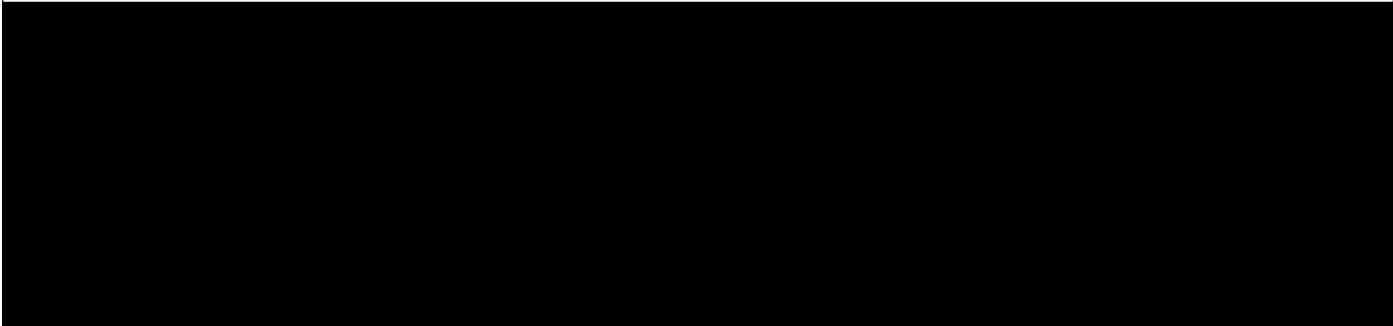
#### NOTE



3. Shading paper

The white and black basis is applied to remember the shading waveform. Be sure to perform this operation when replacing the battery or replacing the control PWB. Execute in the shading mode of DIAG mode.

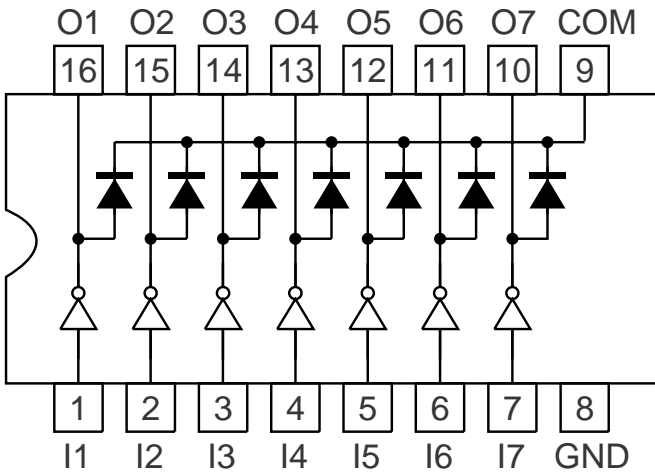
SHADING WAVE MEMORY STANDARD PAPER (PSHEZ3579SCZZ)



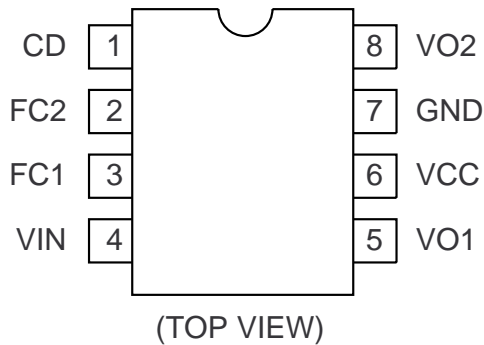
[2] IC signal name

CONTROL PWB UNIT

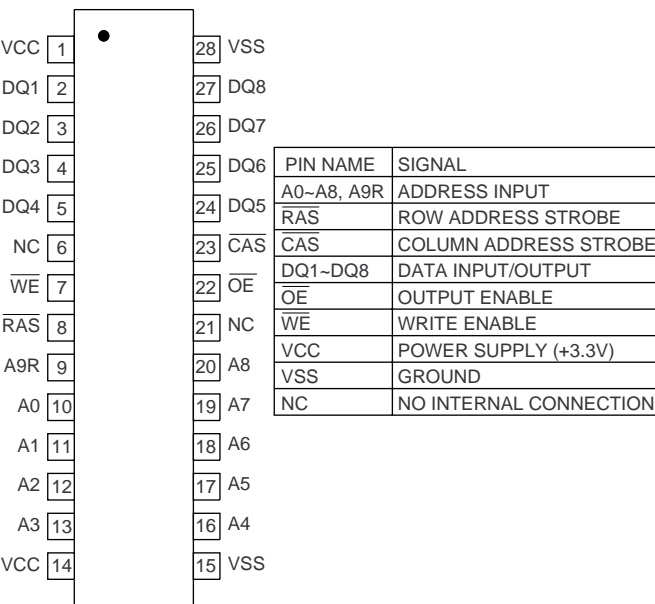
IC4: VHiKiD65001AP (KID65001AP)



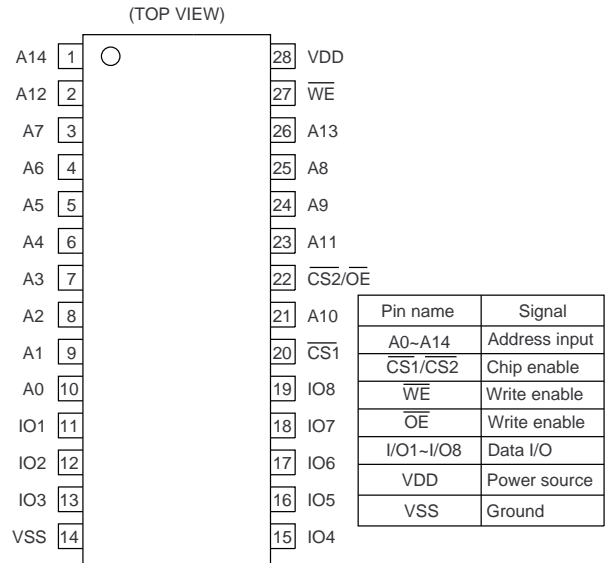
IC5: VHiNJM2113M-1 (NJM2113M)



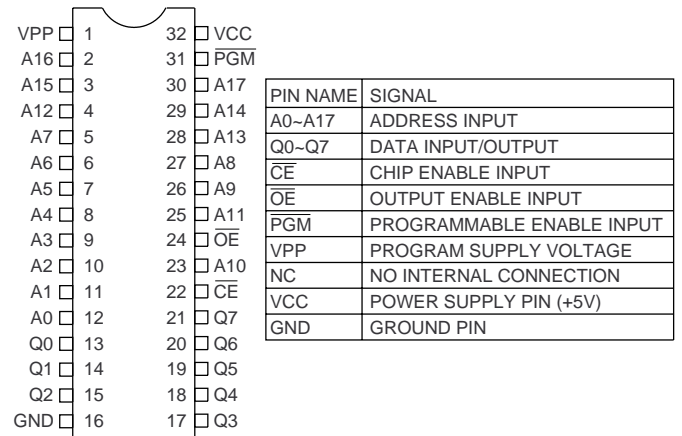
IC3: RH-iX2168SCZZ (MSM51V4800E)



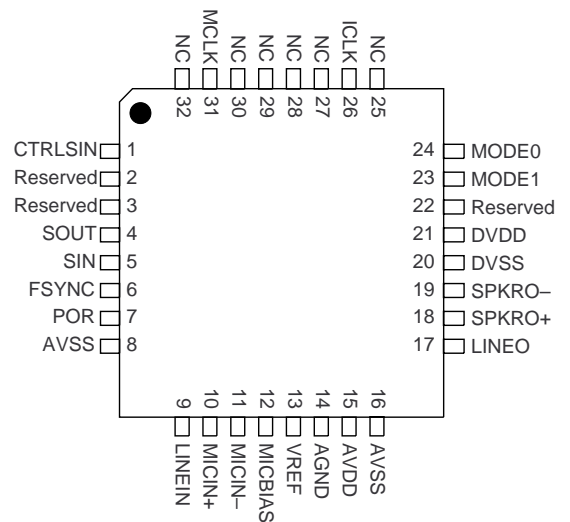
IC2: VHiW24258S7LE (W24258S-70LE)



IC7: VHi27L20012MX (27L2000)

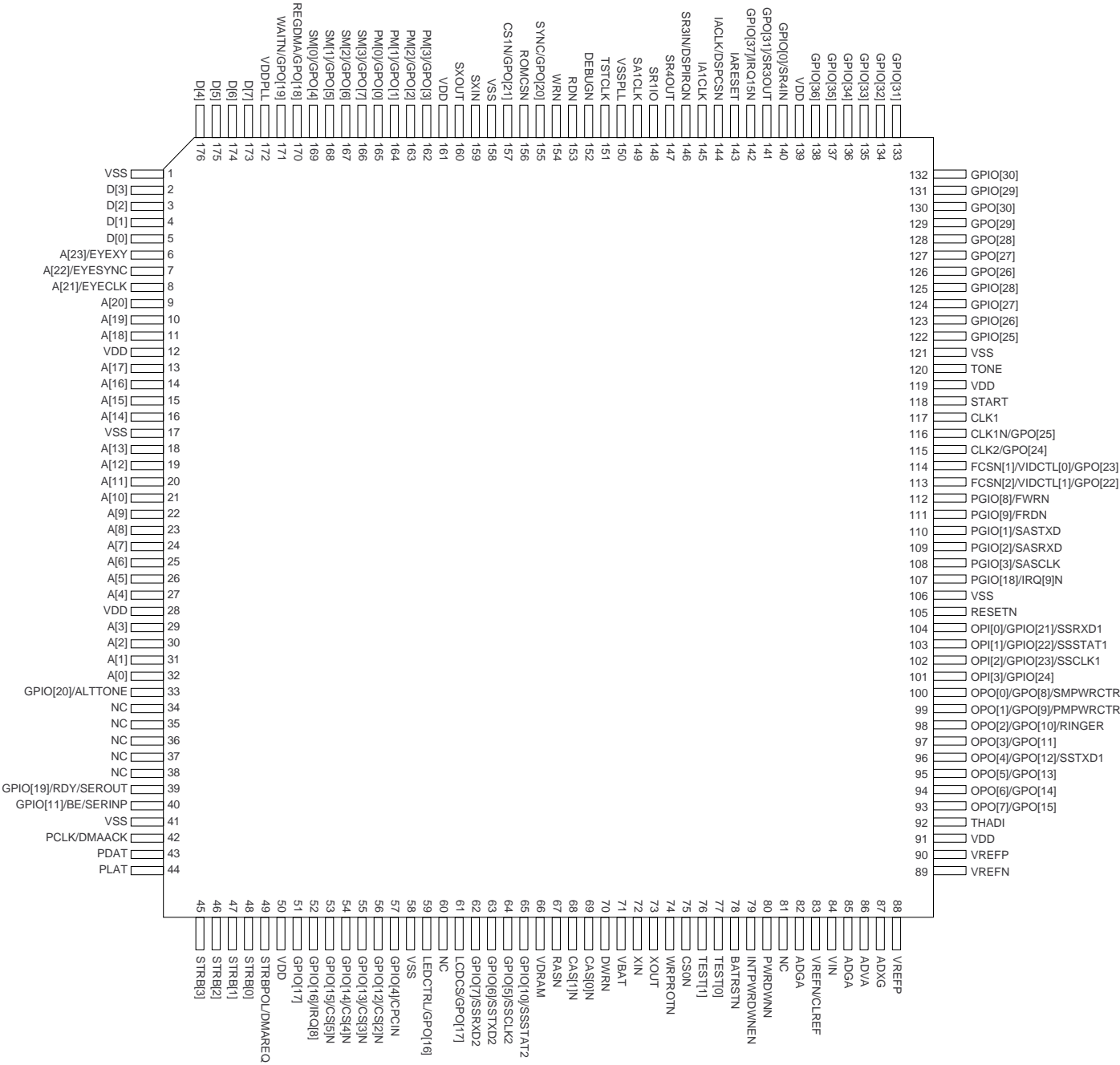


IC11: VHiSCE114//1 (20415)





IC10: VHiSCE114/-1 (SCE114)



# SHARP PARTS GUIDE

## MODEL UX-385

SELECTION CODE	DESTINATION
LU	L.A.G. (120V)

### CONTENTS

- 1

Cabinet, etc.
- 2

Top cover and sub frame
- 3

Upper cabinet
- 4

Document guide upper
- 5

Drive unit
- 6

Packing material & Accessories
- 7

Control PWB unit
- 8

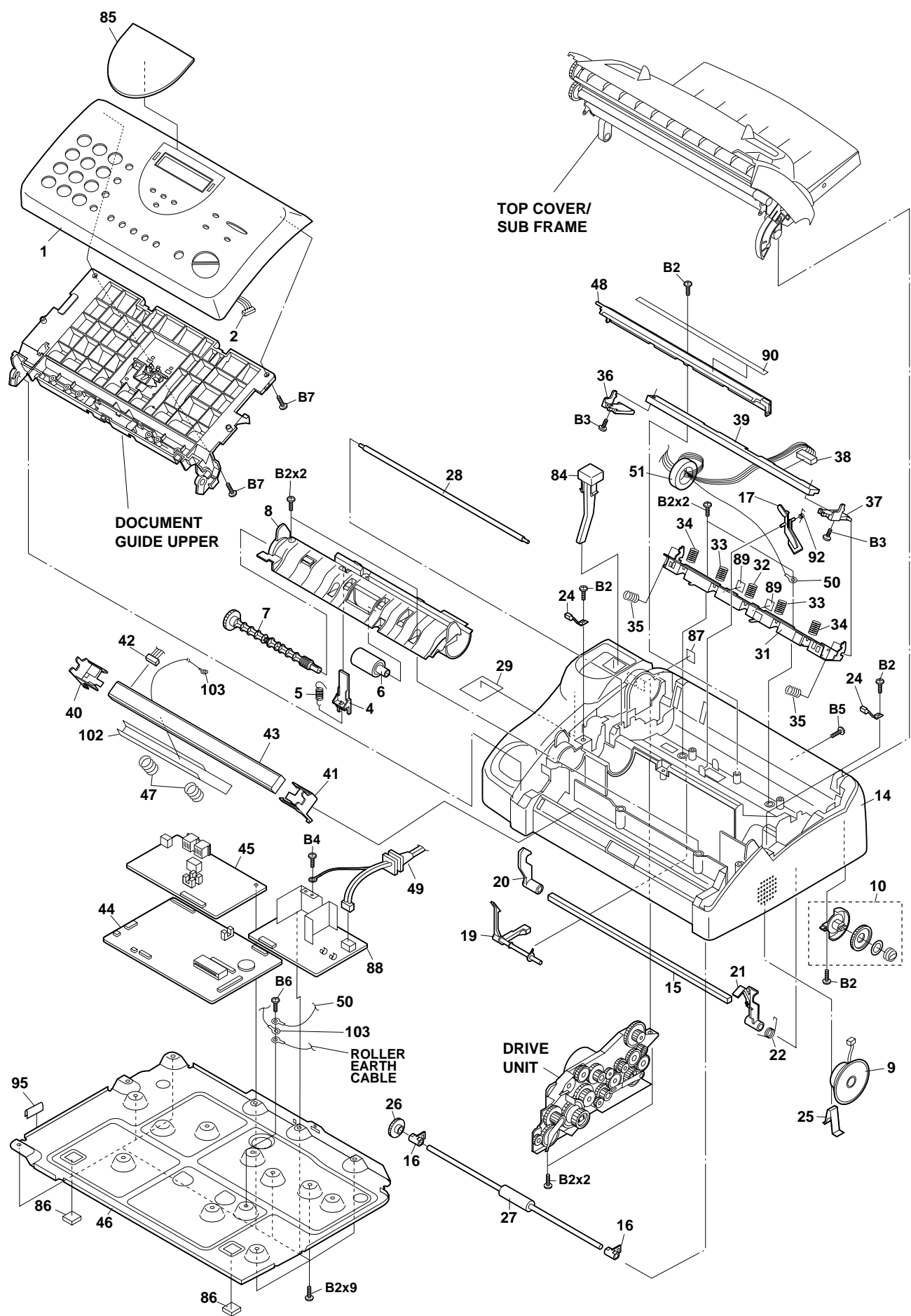
TEL/LIU PWB unit
- 9

Power supply PWB unit
- 10

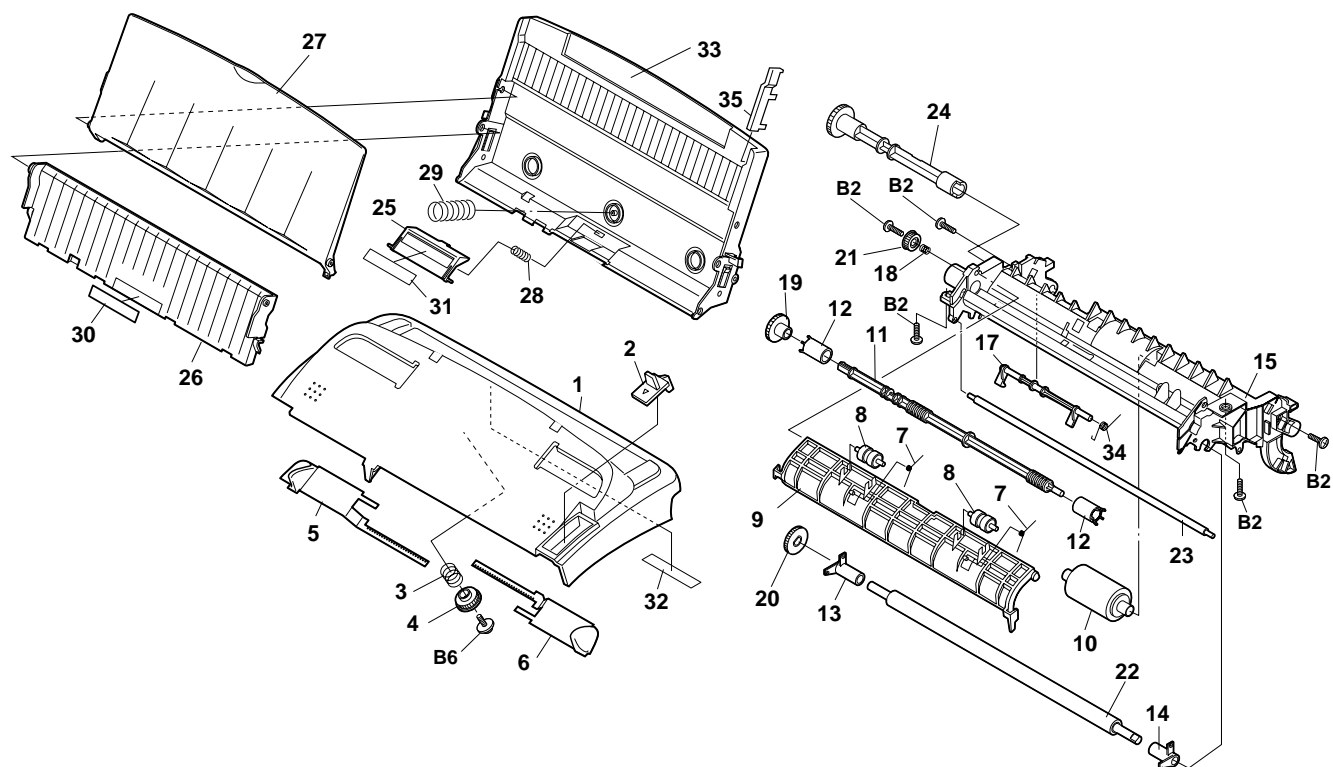
Operation panel PWB unit
- Index

Because parts marked with "⚠" are indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

[1] Cabinet, etc.

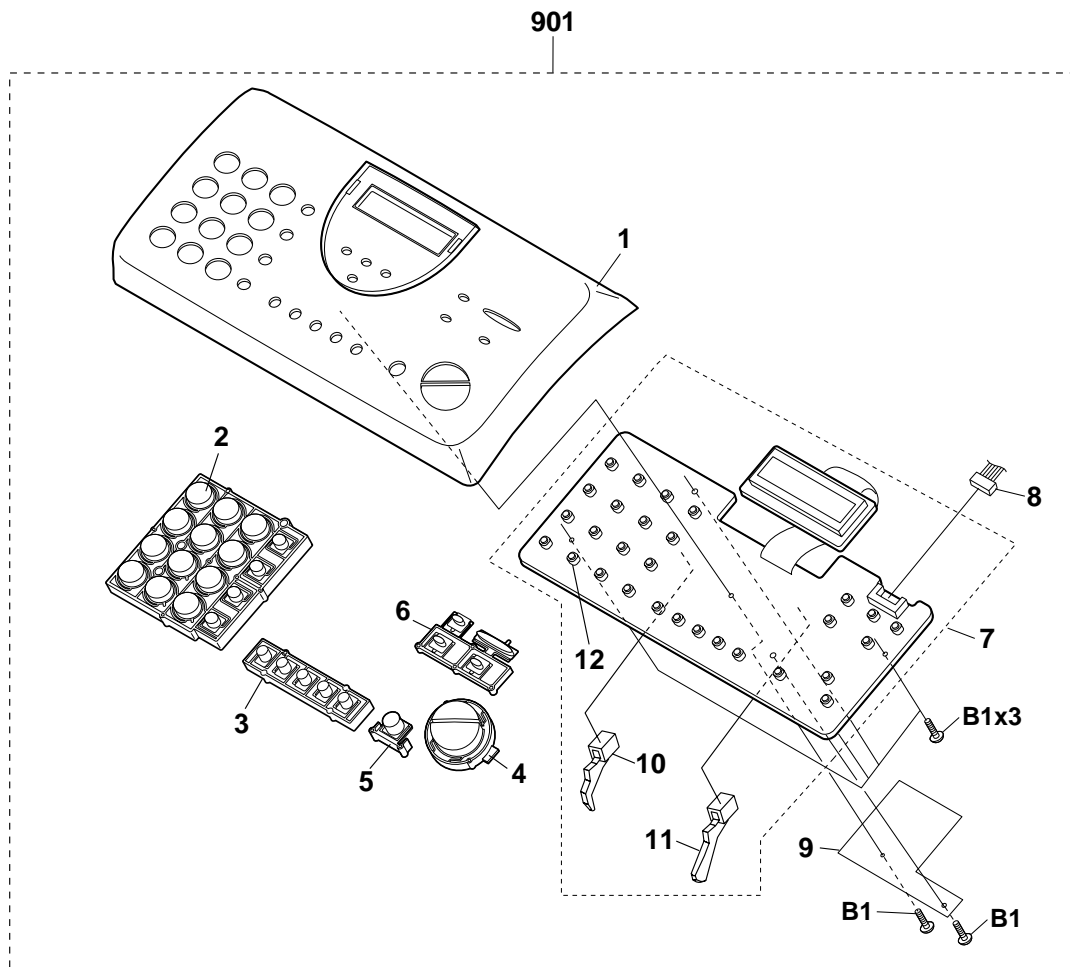


[illegible]

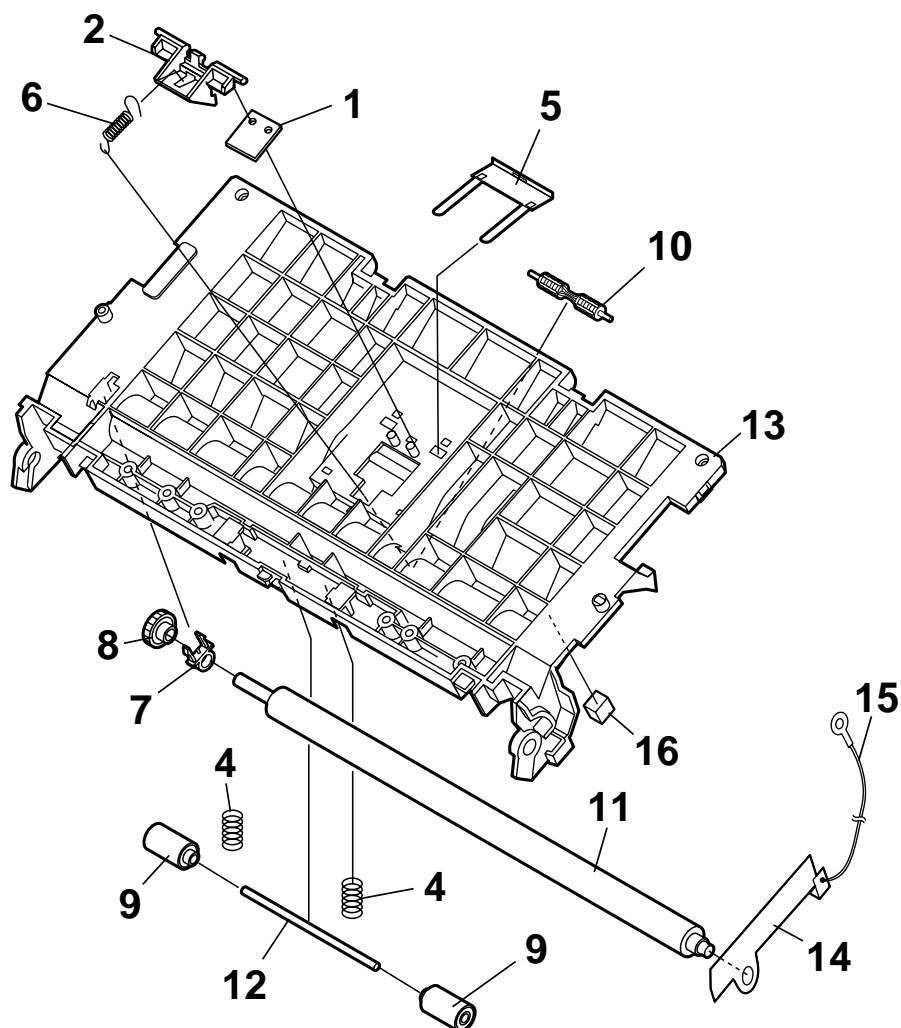


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[3] Upper cabinet

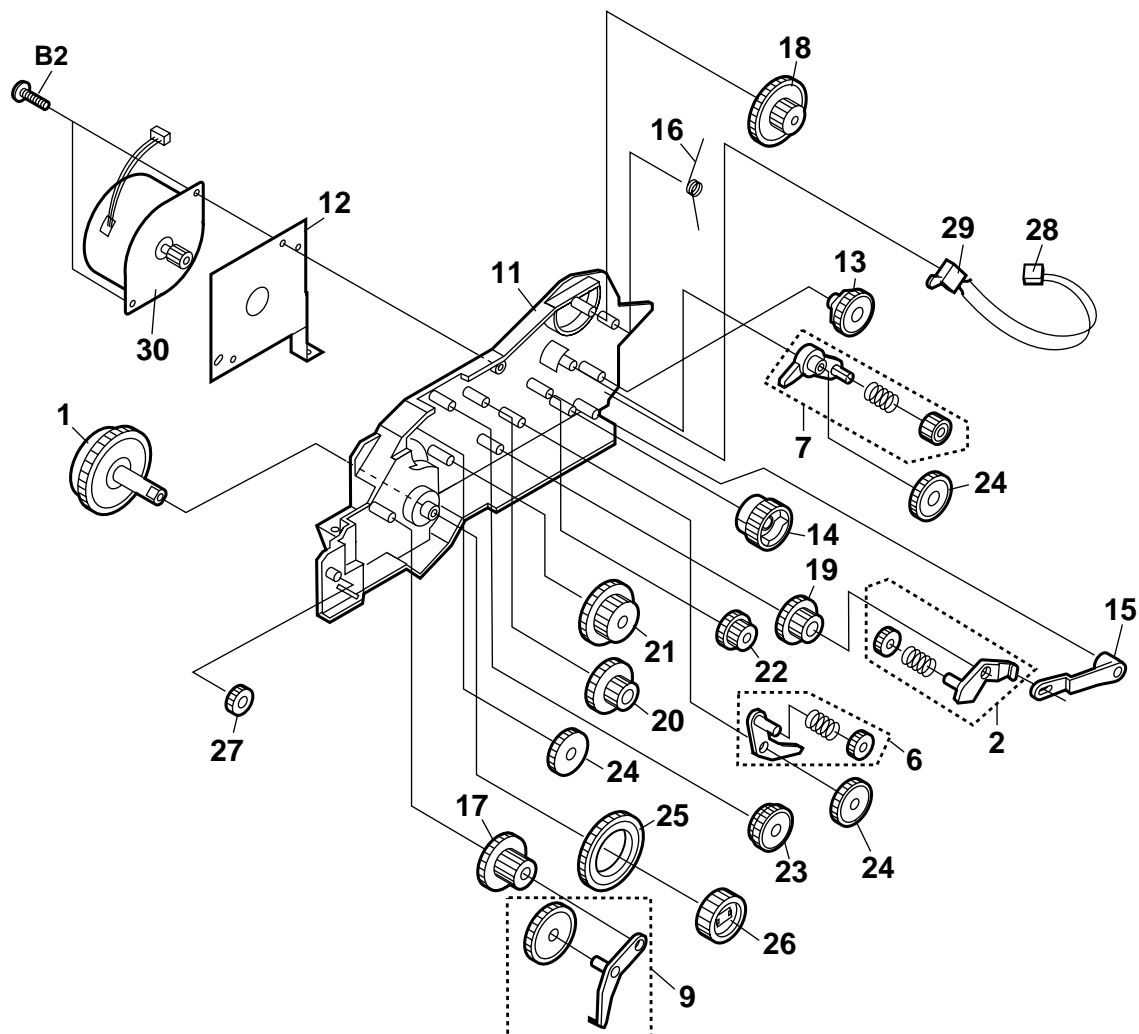
[illegible]

[4] Document guide upper

[illegible]



## [5] Drive unit



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[5] Drive unit					
1	CGERH2459XH01	AM		C	Slip gear ass'y
2	CLEVP2298XH01	AC		C	Planet gear lever A ass'y
6	CLEVP2299XH01	AC		C	Planet gear lever B ass'y
7	CLEVP2300XH01	AC		C	Planet gear lever C ass'y
9	CLEVP2303XH01	AC		C	Planet gear lever D ass'y
11	LFRM-2200XHYA	AM	N	C	Drive unit frame
12	LPLTM2994XHFW	AE		C	Motor plate
13	MCAMP2025XHZZ	AB		C	Cam A
14	MCAMP2026XHZZ	AB		C	Cam B
15	MLEVP2301XHZZ	AB		C	Link lever
16	MSPRD3070XHfJ	AB		C	Cam hold spring
17	NGERH2280XHZZ	AC		C	Idler gear B
18	NGERH2311XHZZ	AD		C	Reduction gear C
19	NGERH2446XHZZ	AB		C	Reduction gear,1
20	NGERH2447XHZZ	AB		C	Reduction gear,2
21	NGERH2448XHZZ	AB		C	Reduction gear,3
22	NGERH2449XHZZ	AB		C	Reduction gear,4
23	NGERH2450XHZZ	AB		C	Reduction gear,5
24	NGERH2451XHZZ	AB		C	Idler gear,30Z
25	NGERH2452XHZZ	AB		C	Idler gear,52Z
26	NGERH2454XHZZ	AB		C	Take up gear
27	NGERH2461XHZZ	AB		C	Reduction gear,6
28	QCNW-4933XHZZ	AC		C	Cam switch cable
29	QSW-F2224SCZZ	AE		B	Cam switch
30	RMOTZ2145XHZZ	BA		B	Motor
B2	XEBSD30P10000	AA		C	Screw(3x10)



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NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] Control PWB unit					
1	UBATL2049SCZZ	AF		B	Battery(CR2032T23) [BAT1]
2	VCEAGA0JW227M	AD	N	C	Capacitor(6.3WV 220μF) [C1]
3	VCEAGA1EW476M	AA		C	Capacitor(50WV 47μF) [C2]
4	VCEAGA0JW227M	AD	N	C	Capacitor(6.3WV 220μF) [C3]
5	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF) [C6]
6	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF) [C7]
7	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF) [C8]
8	VCEAGA0JW227M	AD	N	C	Capacitor(6.3WV 220μF) [C9]
9	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF) [C10]
10	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF) [C11]
11	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF) [C12]
12	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF) [C13]
13	VCEAGA1EW476M	AA		C	Capacitor(50WV 47μF) [C14]
14	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C100]
15	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C103]
16	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C105]
17	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C107]
18	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C109]
19	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C110]
20	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C111]
21	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C115]
22	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C116]
23	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C118]
24	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C119]
25	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C120]
26	VCKYCY1HB472K	AA		C	Capacitor(50WV 4700PF) [C123]
27	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C124]
28	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C126]
29	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C127]
30	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C128]0
31	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C129]
32	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C130]
33	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C131]
34	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C132]
35	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C133]
36	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C134]
37	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C136]
38	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C137]
39	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C138]
40	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF) [C140]
41	VCCCCY1HH180J	AA		C	Capacitor(50WV 18PF) [C141]
42	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C142]
43	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C143]
44	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C144]
45	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C145]
46	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C146]
47	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C147]
48	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C148]
49	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C149]
50	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C150]
51	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C151]
52	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C152]
53	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C153]
54	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C155]
55	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C156]
56	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C159]
57	VCCCCY1HH150J	AB		C	Capacitor(50WV 15PF) [C160]
58	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C161]
59	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C162]
60	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF) [C163]
61	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C164]
62	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C165]
63	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C167]
64	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [C169]
65	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [C171]
66	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C172]
67	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C173]
68	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C174]
69	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C175]
70	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF) [C176]
71	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C178]
72	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C179]
73	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF) [C181]
74	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C182]
75	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C183]
76	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF) [C184]
77	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C185]
78	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF) [C186]
79	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C187]
80	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C188]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] Control PWB unit					
81	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [C189]
82	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [C192]
83	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C194]
84	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF) [C195]
85	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C196]
86	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C197]
87	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C198]
88	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C199]
89	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF) [C201]
90	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF) [C204]
91	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [C209]
92	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C210]
93	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C216]
94	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF) [C217]
95	QCNCM7014SC0G	AB		C	Connector(7pin) [CNCIS]
96	QCNCM2442SC0B	AB		C	Connector(2pin) [CNCISW]
97	QCNCM2575SC1D	AC		C	Connector(14pin) [CNLIUA]
98	QCNCM7014SC0F	AB		C	Connector(6pin) [CNMT]
99	QCNCM7014SC1E	AC		C	Connector(15pin) [CNPNI]
100	QCNCM2575SC0H	AF		C	Connector(8pin) [CNPWI]
101	QCNCM2401SC0B	AA		C	Connector(2pin) [CNSP]
102	QCNCM7014SC1F	AD		C	Connector(16pin) [CNTH]
103	VHE1N4748A/-1	AC		B	Zener diode(1N4748) [D1]
104	VHD1SS355/-1	AB		B	Diode(1SS355) [D100]
105	VHD1SS355/-1	AB		B	Diode(1SS355) [D101]
106	VHD1SS355/-1	AB		B	Diode(1SS355) [D102]
107	VHD1SS355/-1	AB		B	Diode(1SS355) [D103]
108	VHDHRW0202B-1	AD		B	Diode(HRW0202B) [D104]
109	VHD02DZ5R1Y-1	AC		B	Zener diode(02DZ5.1Y) [D105]
110	QFS-P2010SCZZ	AD		B	IC protector(KAB2402) [FU100]
111	VHIW24258S7LE	AQ		B	IC(W24258S-70LE) [IC2]
112	RH-IX2168SCZZ	BB	N	B	IC(MSM51V4800E) [IC3]
113	VHIKID65001AP	AE	N	B	IC(KID65001AP) [IC4]
114	VHINJM2113M-1	AG		B	IC(NJM2113M) [IC5]
115	VHI27020FQB0A	BQ	N	B	IC, EPROM(2MB) [IC7]
	QSOCZ2051SC32	AC		C	IC socket(32pin) [IC7]
116	VHISCE114/-1	BG	N	B	IC(SCE114)(Within IC10 and IC11 pair) [IC10]
117	VHISCE114/-1	BG	N	B	IC(20415)(Within IC10 and IC11 pair) [IC11]
118	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L100]
119	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L105]
120	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L107]
121	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L108]
122	VRS-TS2AD150J	AA		C	Resistor(1/10W 15Ω ±5%) [L109]
123	RCILZ2145XHZZ	AF		C	Coil(HM601) [L110]
124	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L111]
125	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [L112]
126	VHPSG206S/-1	AG		B	Photo transistor(SG206S) [PI1]
127	VS2SA1037KS-1	AB		B	Transistor(2SA1037KS) [Q100]
128	VSDTC143ZK/-1	AD	N	B	Transistor(DTC143ZK) [Q103]
129	VSRNC1402/-1	AC		B	Transistor(RNC1402) [Q104]
130	VSRNC1402/-1	AC		B	Transistor(RNC1402) [Q105]
131	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%) [R100]
132	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R101]
133	VRS-CY1JB300J	AD	N	C	Resistor(1/16W 30Ω ±5%) [R102]
134	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%) [R103]
135	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%) [R104]
136	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R105]
137	VRS-CY1JB223J	AA		C	Resistor(1/16W 22KΩ ±5%) [R109]
138	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R110]
139	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%) [R111]
140	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R112]
141	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%) [R121]
142	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R122]
143	VRS-CY1JB753J	AA		C	Resistor(1/16W 75KΩ ±5%) [R124]
144	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R125]
145	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R126]
146	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%) [R128]
147	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R129]
148	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%) [R132]
149	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%) [R133]
150	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%) [R134]
151	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%) [R136]
152	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R137]
153	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R138]
154	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%) [R139]
155	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R140]
156	VRS-CY1JB474J	AA		C	Resistor(1/16W 470KΩ ±5%) [R141]
157	VRS-CY1JB121J	AA		C	Resistor(1/16W 120Ω ±5%) [R142]
158	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R145]
159	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%) [R146]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[7] Control PWB unit						
160	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R147]
161	VRS-CY1JB105J	AA	N	C	Resistor(1/16W 1MΩ ±5%)	[R148]
162	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R152]
163	VRS-CY1JB223J	AA		C	Resistor(1/16W 22KΩ ±5%)	[R160]
164	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R161]
165	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R165]
166	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R166]
167	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R167]
168	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R168]
169	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R171]
170	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R172]
171	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R173]
172	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R174]
173	VRS-CY1JB106J	AA		C	Resistor(1/16W 10MΩ ±5%)	[R177]
174	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%)	[R179]
175	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R180]
176	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R182]
177	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R183]
178	VRS-CY1JB113J	AA		C	Resistor(1/16W 11KΩ ±5%)	[R184]
179	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R186]
180	VRS-CY1JB222J	AA		C	Resistor(1/16W 2.2KΩ ±5%)	[R188]
181	VRS-CY1JB471J	AA	N	C	Resistor(1/16W 470Ω ±5%)	[R189]
182	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R196]
183	VRS-CY1JB471J	AA	N	C	Resistor(1/16W 470Ω ±5%)	[R197]
184	VRS-CY1JB562J	AA		C	Resistor(1/16W 5.6KΩ ±5%)	[R198]
185	VRS-CY1JB472J	AA		C	Resistor(1/16W 4.7KΩ ±5%)	[R199]
186	VRS-CY1JB393J	AA		C	Resistor(1/16W 39KΩ ±5%)	[R200]
187	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R201]
188	VRS-CY1JB513J	AA		C	Resistor(1/16W 51KΩ ±5%)	[R205]
189	VRS-TS2AD221J	AA		C	Resistor(1/10W 220Ω ±5%)	[R206]
190	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R208]
191	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R210]
192	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R213]
193	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R220]
194	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R221]
195	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R222]
196	RR-TZ3029SCZZ	AB	N	C	Block resistor(1KΩx4)	[RA9]
197	RR-TZ3018SCZZ	AC		C	Block resistor(470Ωx4)	[RA11]
198	RR-TZ3017SCZZ	AC		C	Block resistor(270Ωx4)	[RA12]
199	RR-TZ3017SCZZ	AC		C	Block resistor(270Ωx4)	[RA13]
200	RR-TZ3018SCZZ	AC		C	Block resistor(470Ωx4)	[RA14]
201	RR-TZ3018SCZZ	AC		C	Block resistor(470Ωx4)	[RA15]
202	VH62FP332P-1	AF		B	IC(XC62FP3302P)	[REG1]
203	RRLYD3130SCZZ	AN		B	Relay(OJE-SH-124DM)	[RY1]
204	QSW-M2259XHZZ	AF		B	Cover switch	[SW1]
205	RCRSQ2157SCZZ	AF		B	Crystal(32.256MHz)	[X1]
206	RCRSB0297AFZZ	AD		B	Crystal(32.768kHz)	[X2]
	(Unit)					
901	DCEKC583PXHZZ	BS	N	E	Control PWB unit(Within ROM)	
[8] TEL/LIU PWB unit						
1	VHVRA391PV6-1	AE		B	Varistor(RA391PV6)	[AR2]
2	RC-FZ3024SCZZ	AG		C	Capacitor(250WV 0.82μF)	[C4]
3	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C5]
4	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C6]
5	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C7]
6	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C9]
7	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C11]
8	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C12]
9	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C13]
10	VCKYPA1HB103K	AA		C	Capacitor(50WV 0.01μF)	[C15]
11	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C100]
12	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C104]
13	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C105]
14	VCKYCY1EB393K	AB		C	Capacitor(25WV 0.039μF)	[C106]
15	VCKYTQ1HB102K	AA		C	Capacitor(50WV 1000PF)	[C108]
16	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF)	[C111]
17	VCKYCY1HB392K	AA		C	Capacitor(50WV 3900PF)	[C112]
18	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF)	[C114]
19	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C115]
20	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1μF)	[C117]
21	VCKYCY1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C118]
22	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C119]
23	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000pF)	[C120]
24	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C121]
25	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C122]



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] TEL/LIU PWB unit					
26	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C123]
27	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF) [C124]
28	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C126]
29	VCKYCY1HB821K	AA		C	Capacitor(50WV 820PF) [C127]
30	RRLYD3433XHZZ	AH		B	Relay(OUAZ-SH-124DZ) [CML1]
31	QJAKZ2079XH0D	AD		C	Jack [CNHJ]
32	QCNCW2509SC1D	AF		C	Connector(14pin) [CNLIUA]
33	QJAKZ2069SCBB	AG		C	Jack [CNLNJ/TLJ]
34	VHDDSS133/-1	AA		B	Diode(1SS133) [D1]
35	VHDDSS133/-1	AA		B	Diode(1SS133) [D2]
36	QSW-Z2263XHZZ	AG		B	Hook switch [HOOK SW]
37	VHINJM2904M-2	AG		B	IC(NJM2904) [IC101]
38	VHINJM2904M-2	AG		B	IC(NJM2904) [IC102]
39	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [JP100]
40	VHPTLP521-1BL	AE		B	Photo coupler(TLP521) [PC5]
41	VHPSG206S/-1	AG		B	Photo transistor(SG206S) [PIN]
42	VS2SC2412KR-1	AD		B	Transistor(2SC2412KR) [Q100]
43	VSDTC143ZK/-1	AD	N	B	Transistor(DTC143ZK) [Q101]
44	VSDTC143ZK/-1	AD	N	B	Transistor(DTC143ZK) [Q104]
45	VRD-HT2HY223J	AA		C	Resistor(1/2W 22KΩ ±5%) [R3]
46	VRS-RE3AA102J	AA		C	Resistor(1W 1KΩ ±5%) [R5]
47	VRS-TS2AD223J	AA		C	Resistor(1/10W 22KΩ ±5%) [R101]
48	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%) [R105]
49	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%) [R110]
50	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%) [R111]
51	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R112]
52	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%) [R113]
53	VRS-CY1JB152J	AA		C	Resistor(1/16W 1.5KΩ ±5%) [R114]
54	VRS-CY1JB621J	AA		C	Resistor(1/16W 620Ω ±5%) [R116]
55	VRS-TS2AD101J	AA		C	Resistor(1/10W 100Ω ±5%) [R118]
56	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%) [R124]
57	VRS-CY1JB433J	AA		C	Resistor(1/16W 43KΩ ±5%) [R125]
58	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R126]
59	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R127]
60	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R128]
61	VRS-CY1JB472J	AA		C	Resistor(1/16W 4.7KΩ ±5%) [R129]
62	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6KΩ ±1%) [R130]
63	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%) [R131]
64	VRS-CY1JB301J	AA		C	Resistor(1/10W 300Ω ±5%) [R132]
65	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%) [R134]
66	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R136]
67	VRS-CY1JB822J	AA		C	Resistor(1/16W 8.2KΩ ±5%) [R137]
68	VRS-CY1JB393J	AA		C	Resistor(1/16W 39KΩ ±5%) [R138]
69	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R139]
70	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%) [R140]
71	VRS-CY1JB153J	AA		C	Resistor(1/16W 15KΩ ±5%) [R141]
72	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R142]
73	VRS-TS2AD102J	AA		C	Resistor(1/10W 1KΩ ±5%) [R143]
74	VRS-CY1JB473J	AA		C	Resistor(1/16W 47KΩ ±5%) [R144]
75	RTRNI2164XHZZ	AG		B	Transformer(I2164) [T1]
76	VHVERZV5D471/	AC		B	Varistor(ERZVA5D471) [VA1]
77	VHVERZV5D471/	AC		B	Varistor(ERZVA5D471) [VA2]
78	VHEHZ27-1/-1	AB		B	Zener diode(HZ27C) [ZD6]
79	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1) [ZD9]
80	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1) [ZD10]
	(Unit)				
901	DCEKL254CXH01	BC	N	E	TEL/LIU PWB unit
[9] Power supply PWB unit					
1	0CBUGFM224KR/	AF		C	Capacitor(RE224-C) [C1]
2	0CBUGAL151SM/	AL		C	Capacitor(KMF200VB-150M 18x25) [C2]
3	0CBUGCU471JE/	AD	N	C	Capacitor(DE1105-SL471J1K) [C3]
4	0CBUGFF222BQ/	AC		C	Capacitor(AMZ-222K50) [C4]
5	0CBUGFF472KK/	AC	N	C	Capacitor(ECQB1H472JM4) [C5]
6	0CBUGCM472BJ/	AF		C	Capacitor(DE1610-E472M-KX) [C7]
7	0CBUGAE331TS/	AH		C	Capacitor(LKJ35VB330(M)) [C8]
8	0CBUGAE331TR/	AF	N	C	Capacitor(LKJ16VB330(M)) [C10]
9	0CBUGCD104AP/	AD		C	Capacitor(DD306-F104Z25) [C11]
10	0CBUGFF104BQ/	AD		C	Capacitor(AMZ-104K50) [C12]
11	0CBUGCD104AP/	AD		C	Capacitor(DD306-F104Z25) [C14]
12	0CBUGFF102BQ/	AD		C	Capacitor(AMZ-102K50) [C17]
13	0CBUGFF152BQ/	AD		C	Capacitor(AMZ-152K50) [C20]
14	0CBUGFF102BQ/	AD		C	Capacitor(AMZ-102K50) [C21]
15	0CBUGFF331BQ/	AD	N	C	Capacitor(AMZ-331K50) [C22]
16	0CBPCZ0273ZZ/	AH		C	Connector(IMS-A-9110S-08L) [CN1]
17	0CBPKZ0194ZZ/	AC		C	Base post ass'y(B 2P3-VH) [CN2]

[illegible]

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PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCNW-4938XH01	1-9	AL		C
CGERH2444XHY1	1-10	AF		C
CGERH2459XH01	5-1	AM		C
CLEVP2298XH01	5-2	AC		C
CLEVP2299XH01	5-6	AC		C
CLEVP2300XH01	5-7	AC		C
CLEVP2303XH01	5-9	AC		C
CPLTP3002XHB4	6-5	AK		E
CROLR2434XH01	2-10	AH		C
[D]				
DCEKC583PXHZZ	1-44	BS	N	E
"	7-901	BS	N	E
DCEKL254CXH01	1-45	BC	N	E
"	8-901	BC	N	E
DCEKP253CXH12	1-1	BE	N	E
"	3-901	BE	N	E
DCEKP255CXH02	3-7	BF	N	E
"	10-901	BF	N	E
DUNT464BXHBG	6-19	AQ		E
[G]				
GCABA2365XHSK	3-1	AQ	N	D
GCABB2325XHSM	1-14	BA	N	D
GCOVA2403XHYS	2-1	AL	N	C
GLEGG2068XHZZ	1-86	AC		C
[H]				
HPNLH2391XHSV	1-85	AG	N	D
[J]				
JBTN-2242XHSC	3-2	AG		C
JBTN-2243XHSC	3-3	AD		C
JBTN-2244XHS	3-4	AD		C
JBTN-2245XHS	3-5	AD		C
JBTN-2246XHSC	3-6	AD		C
JKNBP2091XHZZ	2-2	AC		C
[L]				
LANGF2817XHFW	1-15	AF		C
LBSHP2088AXZZ	1-16	AC		C
LBSHP2104XHZA	2-13	AC		C
LBSHP2105XHZZ	2-14	AC		C
LFRM-2198XHZZ	1-31	AK		C
LFRM-2199XHZB	2-15	AK	N	C
LFRM-2200XHYA	5-11	AM	N	C
LPLTG2911XHZZ	4-1	AE		C
LPLTM2994XHFW	5-12	AE		C
LPLTM2995XHFW	1-46	AS		C
LPLTM3106XHZZ	4-14	AD	N	C
LPLTP2908XHZZ	4-2	AE		C
LPLTP2997XHZZ	2-25	AD		C
LPLTP2998XHZZ	2-26	AF		C
LPLTP3001XHYF	2-27	AH	N	C
LPLTP3003XHS	6-7	AH		C
LX-BZ2138XHZZ	2-B6	AB		C
[M]				
MCAMP2025XHZZ	5-13	AB		C
MCAMP2026XHZZ	5-14	AB		C
MLEVP2290XHZZ	1-17	AC		C
MLEVP2293XHZZ	2-17	AD		C
MLEVP2294XHZZ	1-19	AD		C
MLEVP2295XHZZ	1-20	AD		C
MLEVP2296XHZZ	1-21	AD		C
MLEVP2297XHZA	1-4	AC	N	C
MLEVP2301XHZZ	5-15	AB		C
MLEVP2302XHZZ	1-84	AC		C
MSPRC2832XHZZ	2-3	AC		C
MSPRC3057XHfJ	1-47	AC		C
MSPRC3059XHfJ	1-34	AC		C
MSPRC3061XHfJ	1-35	AB		C
MSPRC3062XHfJ	2-28	AB		C
MSPRC3063XHfJ	2-29	AC		C
MSPRC3064XHfJ	2-18	AC		C
MSPRC3071XHfJ	4-4	AB		C
MSPRC3102XHfJ	1-33	AC		C
MSPRC3103XHfJ	1-32	AC		C
MSPRD3065XHfJ	2-7	AB		C
MSPRD3070XHfJ	5-16	AB		C
MSPRD3082XHfJ	1-22	AC		C
MSPRD3104XHfJ	1-92	AC		C
MSPRD3105XHfJ	2-34	AC		C
MSPRP3054XHfJ	1-24	AD		C
MSPRP3055XHfJ	1-25	AD		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
MSPRP3079XHfJ	4-5	AE		C
MSPRT3069XHfJ	1-5	AB		C
MSPRT3208XHZZ	4-6	AC	N	C
[N]				
NBRGP2141XHZZ	4-7	AH		C
NGERH2280XHZZ	5-17	AC		C
NGERH2311XHZZ	5-18	AD		C
NGERH2441XHZZ	2-19	AC		C
NGERH2442XHZZ	2-20	AC		C
NGERH2445XHZZ	1-26	AB		C
"	4-8	AB		C
NGERH2446XHZZ	5-19	AB		C
NGERH2447XHZZ	5-20	AB		C
NGERH2448XHZZ	5-21	AB		C
NGERH2449XHZZ	5-22	AB		C
NGERH2450XHZZ	5-23	AB		C
"	5-24	AB		C
NGERH2451XHZZ	5-25	AB		C
NGERH2452XHZZ	5-25	AB		C
NGERH2454XHZZ	5-26	AB		C
NGERH2455XHZZ	6-15	AD		C
NGERH2456XHZA	6-16	AC	N	C
NGERH2460XHZZ	2-21	AC		C
NGERH2461XHZZ	5-27	AB		C
NGERP2318XHZZ	2-4	AD		C
NROLP2332XHZZ	2-8	AD		C
NROLP2334XHZA	4-9	AC		C
NROLP2406XHZZ	4-10	AD		C
NROLR2375XHZZ	1-6	AL		C
NROLR2408XHZZ	2-11	AD		C
NROLR2409XHZZ	2-22	AW		C
NROLR2410XHZZ	1-27	AP		C
NROLR2411XHZZ	4-11	AV		C
NSFTM2311XHZZ	1-28	AG		C
"	2-23	AG		C
NSFTP2302XHZZ	1-7	AD		C
NSFTP2304XHZZ	2-24	AD		C
NSFTZ2257XHZZ	4-12	AG		C
[P]				
PCOVF2122XHZZ	1-48	AK		C
PCUSG2138XHZZ	4-16	AD	N	C
PCUSS2120XHZZ	1-89	AB		C
PGIDM2529XHZZ	1-40	AD		C
PGIDM2530XHZZ	1-41	AD		C
PGIDM2531XHZZ	1-36	AD		C
PGIDM2532XHZZ	1-37	AD		C
PGIDM2533XHSC	2-5	AD		C
PGIDM2534XHSC	2-6	AD		C
PGIDM2535XHSC	2-35	AC		C
PGIDM2536XHZZ	4-13	AK		C
PGIDM2537XHZA	2-9	AF		C
PGIDM2538XHZZ	1-8	AM		C
PGUMR2160XHZZ	2-12	AE		C
PHOP-2101XHSC	2-33	AH		C
PHOP-2102XHZZ	6-8	AE		C
PRBNN2015SCZZ	6-23	AQ		S
PSEL-2015XHZZ	2-30	AB		C
PSHEZ3293XHZZ	2-31	AH		C
PSHEZ3410XHZZ	1-87	AB		C
PSHEZ3429XHZZ	1-90	AD		C
PSHEZ3431XHZZ	2-32	AC		C
PSHEZ3432XHZZ	1-95	AE		C
PSHEZ3443XHZZ	1-29	AE		C
PSHEZ3544XHZZ	3-9	AD	N	C
PSHEZ3575XHZZ	1-102	AK	N	C
[Q]				
QACCD2027XHZZ	1-49	AR		B
QCNCM2401SC0B	7-101	AA		C
QCNCM2442SC0B	7-96	AB		C
QCNCM2575SC0H	7-100	AF		C
QCNCM2575SC1D	7-97	AC		C
QCNCM7014SC0F	7-98	AB		C
QCNCM7014SC0G	7-95	AB		C
QCNCM7014SC1E	7-99	AC		C
QCNCM7014SC1F	7-102	AD		C
QCNCW2509SC1D	8-32	AF		C
QCNW-231AXHZZ	1-2	AG		C
"	3-8	AG		C
QCNW-290ASCZZ	6-13	AE		C
QCNW-350AXHZZ	4-15	AD	N	C
QCNW-351AXHZZ	1-103	AD	N	C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
QCNW-3976XHBG	6-14	AK		C
QCNW-4933XHZZ	5-28	AC		C
QCNW-4936XHZZ	1-38	AN		C
QCNW-4939XHZZ	1-42	AF		C
QCNW-4971XHZZ	1-50	AD		C
QFS-P2010SCZZ	7-110	AD		B
QJAKZ2069SCBB	8-33	AG		C
QJAKZ2079XH0D	8-31	AD		C
QSOCZ2051SC32	7-115	AC		C
QSW-F2224SCZZ	5-29	AE		B
QSW-K0005AWZZ	3-12	AC		C
"	10-1	AC		C
QSW-M2259XHZZ	7-204	AF		B
QSW-M2281XHZZ	3-10	AP	N	C
"	10-2	AP	N	C
QSW-M2282XHZZ	3-11	AP	N	C
"	10-3	AP	N	C
QSW-Z2263XHZZ	8-36	AG		B
[R]				
RC-FZ3024SCZZ	8-2	AG		C
RCILZ2145XHZZ	7-123	AF		C
RCORF2125XHZZ	1-51	AE		B
RCSRB0297AFZZ	7-206	AD		B
RCRSQ2157SCZZ	7-205	AF		B
RDENT2155XHZZ	1-88	BD	N	E
"	9-901	BD	N	E
RH-IX2168SCZZ	7-112	BB	N	B
RHEDZ2062XHZZ	1-39	BN	N	B
RMOTZ2145XHZZ	5-30	BA		B
RR-TZ3017SCZZ	7-198	AC		C
"	7-199	AC		C
RR-TZ3018SCZZ	7-197	AC		C
"	7-200	AC		C
"	7-201	AC		C
RR-TZ3029SCZZ	7-196	AB	N	C
RRLYD3130SCZZ	7-203	AN		B
RRLYD3433XHZZ	8-30	AH		B
RTRNI2164XHZZ	8-75	AG		B
RUNTZ2060XHZZ	1-43	BK	N	B
[S]				
SPAKA480AXHZZ	6-12	AG		D
SPAKA481AXHZA	6-11	AG	N	D
SPAKA489AXHZZ	6-10	AD		D
SPAKA490AXHZZ	6-9	AD		D
SPAKC321CXHTZ	6-1	AU	N	D
SPAKP3385SCZZ	6-18	AG		D
[T]				
TINSS4177XHTZ	6-3	BB	N	D
TLABH212AXHZZ	6-22	AU		D
TLABH4752XHZZ	6-6	AB		D
TLABH4936XHZZ	6-4	AD		D
TLABH4937XHZZ	6-21	AZ		D
TLABM299CXHZZ	6-17	AD	N	D
[U]				
UBATL2049SCZZ	7-1	AF		B
[V]				
VCCCCY1HH101J	7-23	AA		C
"	7-24	AA		C
"	7-28	AA		C
"	7-37	AA		C
"	7-38	AA		C
"	7-39	AA		C
"	7-47	AA		C
"	7-48	AA		C
"	7-49	AA		C
"	7-50	AA		C
"	7-51	AA		C
"	7-52	AA		C
"	7-53	AA		C
"	7-54	AA		C
"	7-55	AA		C
VCCCCY1HH150J	7-57	AB		C
VCCCCY1HH180J	7-41	AA		C
VCCCCY1HH220J	7-60	AA		C
"	7-78	AA		C
VCCCCY1HH221J	7-22	AA		C
"	8-22	AA		C
"	8-24	AA		C
VCCCCY1HH330J	8-18	AA		C
"	8-27	AA		C



PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCEAGA0JW227M	7-2	AD	N	C
"	7-4	AD	N	C
"	7-8	AD	N	C
VCEAGA1EW476M	7-3	AA		C
"	7-13	AA		C
VCEAGA1HW106M	7-5	AA		C
"	7-6	AA		C
"	7-7	AA		C
"	7-9	AA		C
"	8-4	AA		C
VCEAGA1HW107M	7-10	AA		C
"	7-11	AA		C
VCEAGA1HW226M	7-12	AB		C
"	8-3	AB		C
"	8-6	AB		C
"	8-7	AB		C
"	8-8	AB		C
"	8-9	AB		C
VCEAGA1HW475M	8-5	AA		C
VCKYCY1AF105Z	7-21	AC		C
"	7-27	AC		C
"	7-61	AC		C
"	7-62	AC		C
"	7-63	AC		C
"	7-66	AC		C
"	7-74	AC		C
"	7-75	AC		C
"	7-77	AC		C
"	7-79	AC		C
"	7-80	AC		C
"	7-83	AC		C
"	7-85	AC		C
"	7-86	AC		C
"	7-87	AC		C
"	7-88	AC		C
"	7-92	AC		C
VCKYCY1CB104K	7-70	AB		C
"	7-89	AB		C
"	7-90	AB		C
VCKYCY1EB393K	8-14	AB		C
VCKYCY1EF104Z	7-14	AA		C
"	7-15	AA		C
"	7-17	AA		C
"	7-36	AA		C
"	7-56	AA		C
"	7-59	AA		C
"	7-67	AA		C
"	7-68	AA		C
"	7-69	AA		C
"	7-94	AA		C
"	8-13	AA		C
"	8-21	AA		C
VCKYCY1HB102K	7-18	AA		C
"	7-19	AA		C
"	7-20	AA		C
"	7-25	AA		C
"	7-29	AA		C
"	7-30	AA		C
"	7-31	AA		C
"	7-32	AA		C
"	7-33	AA		C
"	7-34	AA		C
"	7-35	AA		C
"	7-84	AA		C
"	8-16	AA		C
"	8-23	AA		C
VCKYCY1HB103K	7-40	AA		C
"	7-76	AA		C
VCKYCY1HB222K	8-11	AA		C
"	8-12	AA		C
VCKYCY1HB392K	8-17	AA		C
VCKYCY1HB472K	7-26	AA		C
VCKYCY1HB821K	8-29	AA		C
VCKYPA1HB103K	8-10	AA		C
VCKYTQ1HB102K	8-15	AA		C
VCKYTV1CF105Z	7-42	AB		C
"	7-43	AB		C
"	7-44	AB		C
"	7-45	AB		C
"	7-46	AB		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1CF105Z	7-58	AB		C
"	7-71	AB		C
"	7-72	AB		C
"	7-73	AB		C
"	8-19	AB		C
"	8-20	AB		C
VCKYTV1HF104Z	7-16	AA		C
"	7-93	AA		C
"	8-25	AA		C
"	8-26	AA		C
"	8-28	AA		C
VHDDSS133//1	8-34	AA		B
"	8-35	AA		B
VHDHRW0202B-1	7-108	AD		B
VHD02DZ5R1Y-1	7-109	AC		B
VHD1SS355//1	7-104	AB		B
"	7-105	AB		B
"	7-106	AB		B
"	7-107	AB		B
VHEHZ2C1///1	8-79	AA		B
"	8-80	AA		B
VHEHZ27-1//1	8-78	AB		B
VHE1N4748A/-1	7-103	AC		B
VHIKID65001AP	7-113	AE	N	B
VHINJM2113M-1	7-114	AG		B
VHINJM2904M-2	8-37	AG		B
"	8-38	AG		B
VHISCE114//1	7-116	BG	N	B
"	7-117	BG	N	B
VHIW24258S7LE	7-111	AQ		B
VHI27020FQB0A	7-115	BQ	N	B
VHI62FP332P-1	7-202	AF		B
VHPSG206S//1	7-126	AG		B
"	8-41	AG		B
VHPTLP521-1BL	8-40	AE		B
VHVERZV5D471/	8-76	AC		B
"	8-77	AC		B
VHVRA391PV6-1	8-1	AE		B
VRD-HT2HY223J	8-45	AA		C
VRS-CY1JB000J	7-64	AA		C
"	7-65	AA		C
"	7-81	AA		C
"	7-82	AA		C
"	7-91	AA		C
"	7-138	AA		C
"	7-142	AA		C
"	7-153	AA		C
"	7-158	AA		C
"	7-165	AA		C
"	7-166	AA		C
"	7-167	AA		C
"	7-168	AA		C
"	7-170	AA		C
"	7-176	AA		C
"	7-177	AA		C
"	7-179	AA		C
"	7-192	AA		C
"	8-39	AA		C
"	8-51	AA		C
"	8-58	AA		C
"	8-66	AA		C
VRS-CY1JB102J	7-149	AA		C
"	7-169	AA		C
"	7-171	AA		C
"	8-48	AA		C
VRS-CY1JB103J	7-134	AA		C
"	7-146	AA		C
"	7-151	AA		C
"	7-154	AA		C
"	7-175	AA		C
"	7-194	AA		C
"	7-195	AA		C
VRS-CY1JB104J	7-141	AA		C
"	7-148	AA		C
"	7-187	AA		C
VRS-CY1JB105J	7-161	AA	N	C
VRS-CY1JB106J	7-173	AA		C
VRS-CY1JB113J	7-178	AA		C
VRS-CY1JB121J	7-157	AA		C
VRS-CY1JB151J	7-162	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-CY1JB152J	8-53	AA		C
VRS-CY1JB153J	8-71	AA		C
VRS-CY1JB203J	7-150	AA		C
"	7-164	AA		C
"	8-50	AA		C
"	8-56	AA		C
"	8-63	AA		C
"	8-65	AA		C
VRS-CY1JB222J	7-180	AA		C
VRS-CY1JB223J	7-137	AA		C
"	7-163	AA		C
VRS-CY1JB224J	7-139	AA		C
"	7-174	AA		C
"	8-70	AA		C
VRS-CY1JB271J	7-132	AA		C
"	7-136	AA		C
"	7-140	AA		C
"	7-144	AA		C
"	7-145	AA		C
"	7-147	AA		C
"	7-152	AA		C
"	7-155	AA		C
"	7-159	AA		C
"	7-160	AA		C
"	7-172	AA		C
"	7-182	AA		C
VRS-CY1JB300J	7-133	AD	N	C
VRS-CY1JB301J	8-64	AA		C
VRS-CY1JB332J	8-59	AA		C
"	8-60	AA		C
"	8-69	AA		C
"	8-72	AA		C
VRS-CY1JB393J	7-186	AA		C
"	8-68	AA		C
VRS-CY1JB433J	8-57	AA		C
VRS-CY1JB471J	7-181	AA	N	C
"	7-183	AA	N	C
VRS-CY1JB472J	7-185	AA		C
"	8-61	AA		C
VRS-CY1JB473J	8-74	AA		C
VRS-CY1JB474J	7-156	AA		C
VRS-CY1JB512J	7-135	AA		C
"	8-52	AA		C
VRS-CY1JB513J	7-188	AA		C
VRS-CY1JB562J	7-184	AA		C
VRS-CY1JB621J	8-54	AA		C
VRS-CY1JB753J	7-143	AA		C
VRS-CY1JB822J	8-67	AA		C
VRS-RE3AA102J	8-46	AA		C
VRS-TS2AD000J	7-118	AA		C
"	7-119	AA		C
"	7-120	AA		C
"	7-121	AA		C
"	7-124	AA		C
"	7-125	AA		C
"	7-131	AA		C
"	7-190	AA		C
"	7-191	AA		C
"	7-193	AA		C
VRS-TS2AD101J	8-55	AA		C
VRS-TS2AD102J	8-73	AA		C
VRS-TS2AD150J	7-122	AA		C
VRS-TS2AD151J	8-49	AA		C
VRS-TS2AD221J	7-189	AA		C
VRS-TS2AD223J	8-47	AA		C
VRST2AD8662F	8-62	AA		C
VSDTC143ZK/-1	7-128	AD	N	B
"	8-43	AD	N	B
"	8-44	AD	N	B
VSRNC1402//1	7-129	AC		B
"	7-130	AC		B
VS2SA1037KS-1	7-127	AB		B
VS2SC2412KR-1	8-42	AD		B
[X]				
XBBSD30P06000	1-B3	AA		C
XBPSN40P06K00	1-B4	AA		C
XEBSD20P06000	3-B1	AA		C
XEBSD30P08000	1-B7	AA		C
XEBSD30P10000	1-B2	AA		C
"	2-B2	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
XEBSD30P10000	5-B2	AA		C
XHBSD30P05000	1-B5	AA		C
XHBSD30P06000	1-B6	AA		C
[O]				
0CBLRZ6581ZN/	9-29	AQ		C
0CBLRZ6686ZQ/	9-30	AQ	N	C
0CBPCZ0273ZZ/	9-16	AH		C
0CBPJCSX2501/	9-25	AH		A
0CBPKZ0194ZZ/	9-17	AC		C
0CBPZZ0906ZZ/	9-26	AH		A
0CBUAC0034EZ/	9-34	AE		B
"	9-35	AE		B
0CBUAC0264AZ/	9-33	AD		B
0CBUAG0161BZ/	9-32	AQ		B
0CBUBA0011AL/	9-22	AD		B
0CBUBC0125DK/	9-18	AD		B
"	9-19	AD		B
"	9-20	AD		B
"	9-21	AD		B
0CBUBC0302AZ/	9-24	AE		B
0CBUBC0336AZ/	9-23	AL		B
0CBUBDAC6R2C/	9-60	AC		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0CBUBDAE300D/	9-59	AD		B
0CBUBDBE4R3C/	9-58	AD		B
0CBUCB0196AZ/	9-27	AR		B
0CBUDC0062MZ/	9-31	AG		B
0CBUEEB101CS/	9-54	AC		C
0CBUEEB152CS/	9-47	AC		C
0CBUEEB181CS/	9-42	AC		C
0CBUEEB182CS/	9-51	AC		C
0CBUEEB184CS/	9-38	AC		C
0CBUEEB222CS/	9-50	AC		C
0CBUEEB271CS/	9-46	AC		C
0CBUEEB331CS/	9-39	AC		C
0CBUEEB332CF/	9-52	AC		C
"	9-53	AC		C
0CBUEEB334CS/	9-48	AC		C
0CBUEEB471CS/	9-44	AC		C
0CBUEEB473CS/	9-41	AC		C
"	9-43	AC		C
0CBUEEB562CS/	9-40	AC	N	C
0CBUEEB682CS/	9-49	AC		C
0CBUEEB824CS/	9-37	AC		C
0CBUEEC105CF/	9-36	AC		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0CBUEFDR15DB/	9-45	AE		C
0CBUEZ0528ZZ/	9-56	AD		B
0CBUFBA471CB/	9-57	AD		B
0CBUGAE331TR/	9-8	AF	N	C
0CBUGAE331TS/	9-7	AH		C
0CBUGAL151SM/	9-2	AL		C
0CBUGCD104AP/	9-9	AD		C
"	9-11	AD		C
0CBUGCM472BJ/	9-6	AF		C
0CBUGCU471JE/	9-3	AD	N	C
0CBUGFF102BQ/	9-12	AD		C
"	9-14	AD		C
0CBUGFF104BQ/	9-10	AD		C
0CBUGFF152BQ/	9-13	AD		C
0CBUGFF222BQ/	9-4	AC		C
0CBUGFF331BQ/	9-15	AD	N	C
0CBUGFF472KX/	9-5	AC	N	C
0CBUGFM224KR/	9-1	AF		C
0CBUKZ0960ZZ/	9-28	AK	N	C
0CB829585033/	9-55	BE		B

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